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ABSTRACT

This report presents the results of the latest in a series of triennial surveys conducted by the Council of Ontario Universities (COU) (Ontario, Canada) in order to monitor the existing university space inventory and changes in space requirements as determined by the COU Building Blocks space formula. Section 1, "Introduction," discusses the development and use of the Building Blocks approach, changes in reporting and accountability, and some committee activities since 1987. Section 2 contains an overview from 1977-1978 to 2001-2002. Section 3 contains institutional tables presenting information from the 2001-2002 survey of university space. These tables represent the responses of 23 university campuses with a system summary. Section 4 contains summary tables for the entire province by the type of space being used, and section 5 contains six appendixes that define the space classification scheme and present information about definitions and space standards, as well as a calendar of pertinent information and a list of publications. (Contains 37 tables.) (SLD)

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INVENTORY OF PHYSICAL FACILITIES OF ONTARIO UNIVERSITIES

2001-02

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2001-02

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Section 1

INTRODUCTION

INTRODUCTION

This report presents results of the latest in a series of triennial surveys conducted by the Council of Ontario Universities in order to monitor existing university space inventory and changes in space requirements, as determined by the *COU Building Blocks* space formula.

For those unfamiliar with the terminology used in the report, please see Appendix D: Definitions.

The Development and Use of Building Blocks

The COU space formula and inventory classification system were developed in the 1970s, and have been revised over the years, most recently prior to publication of the 1986-87 survey data in Volume VII of the *Building Blocks* series.

The COU Survey of Physical Facilities takes place during the winter of each third academic year. Data as of November 1 are requested, to coincide with the date for reporting of student enrolment to the Ontario government for operating grants purposes.

In the survey, each institution is asked to report current inventory in 20 space categories, and related input measures, such as student enrolment, faculty and staff full-time equivalent positions, laboratory contact hours, and equivalent volumes in the library collection. These input measures are used in the calculation of space requirements for the first 15 of the categories, for which quantitative space factors have been determined. The resulting calculations of space entitlement are used, with the data on existing inventory, in various ways. For example, COU uses the survey data to monitor changing space needs and as part of the case made to government about capital funding requirements for the university system as a whole. Individual institutions may compare their existing inventory with space entitlement under the COU formula in proposals for capital funding for new buildings, and the COU formula (sometimes with modifications) is used in institutional planning, such as estimating the needs of a division for different types of space.

Outside agencies and institutions, including universities and government ministries in British Columbia and Saskatchewan, are also users of *Building Blocks*. Consultants planning university facilities in Canada and in other countries frequently request COU space publications. The Canadian University Reciprocal Insurance Exchange (CURIE) uses the COU space categories as a basis for determining the value of university facilities for insurance purposes. And, since 1986-87, the "Ontario Ministry" has allocated funds for repair and renovation according to each institution's entitlement for space in the 15 formula categories.

"Ontario Ministry" refers to the Ontario Ministry responsible for postsecondary education. Until February 1993, it was called Ministry of Colleges and Universities; from February 1993 until July 1999 it was called Ministry of Education and Training, and from July 1999 to the present it is called Ministry of Training, Colleges and Universities.

The COU Committee on Space Standards and Reporting

Co-ordination of the triennial survey, periodic reviews of the space standards, and special studies on the availability and utilization of university space are the responsibility of the Committee (established in 1988). The Committee has undertaken a number of projects, including a study of classroom utilization in Ontario universities (a joint project with the "Ontario Ministry") and an examination of the Building Blocks formula in relation to university space standards in other North American jurisdictions. In addition to special studies, the Committee uses the detailed data collected in the survey to monitor changes in space needs, such as the impact of computing on the laboratory, library and office categories. A list of publications from the Committee and its predecessors is included in Appendix F of this report.

In 1992, the Committee prepared the *COU Building Blocks Users' Guide*, in response to requests for a document which would be more concise, up-to-date and "user friendly" than the volumes in the *Building Blocks* series, which describe in detail the space classification scheme, the assumptions in the space factors and the analysis used in developing, testing and revising the complete COU space formula.[1] The *Users' Guide* contains instructions for the preparation of institutional responses to the triennial survey, and also explains how the COU space formula can be used to analyze space requirements for purposes other than the survey. The *Users' Guide* is revised every survey cycle.

Accountability and Utilization Issues

Explaining how university space is being used is an ongoing responsibility of the Committee. With increasing emphasis on accountability, universities are expected to ensure that their use of resources, including physical facilities, is efficient and that appropriate information on utilization is made available to government and the wider public. The space factors used in Building Blocks contain implicit utilization measures for classrooms and laboratories.

For example, in the late 1980s, COU and the "Ontario Ministry" conducted a joint study of classroom utilization, to determine whether the utilization assumptions were still appropriate.[2] Data from a sample of Ontario universities showed that the universities were meeting or exceeding the hours of use per week and percentage of seats occupied in the classroom space factor, and that average area for the different furniture types currently in use was also consistent with the assumption in the formula. The survey also showed that extended use during the evening is occurring at many institutions.

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[1] *Building Blocks: Background Studies on the Development of a Capital Formula for Ontario. Volume I: Report of the Task Force - Space and Utilization* (Council of Ontario Universities, 1972), COU publication # 72-9; *Building Blocks: Volume VI: Report of the Subcommittee-Revisions to Building Blocks* (Council of Ontario Universities, 1978), COU publication # 78-12; and *Building Blocks: Volume VII: The Final Report of the Task Force to Review COU Space Standards* (Council of Ontario Universities, 1988), COU publication #88-1.

[2] *Classroom Space Utilization in Ontario Universities, 1988-89* (Council of Ontario Universities, 1990).

The publication of a major California study on university space standards also provided an opportunity to examine the COU standards in relation to systems in use in other North American jurisdictions. A short summary of the California study[3] was prepared, which demonstrated that the COU standards are consistent with standards used elsewhere in Canada and the U.S., and that in most space categories the COU standards are more rigorous.

In 1999, MGT of America, Inc. conducted their fourth national survey[4] and updated space standards in higher education. Some of their findings are incorporated in Appendix A.

More than 25 years after they first appeared, the original *Building Blocks* publications are still requested by universities, government departments and planners in North America and abroad. The COU space formula retains its usefulness and credibility, in large part because it undergoes regular review and updating, a process that does not always occur in other jurisdictions.

Changes and Improvements in Reporting

Commencing with the 2001 report, the inventory for Dean's office (which was previously reported under Category 10 (administrative office space)), is now reported under Category 4 (academic office space).

Commencing with the 2001 report, the assumptions used in the classroom input measure were updated to reflect the way students are being taught today. As a result, (1) the station size increased from 1.4 NASM to 1.7 NASM, (2) the utilization rate increased from 62% to 65%, and (3) the number of hours per week that a classroom is expected to be used, increased from 30 to 34 (to account for evening classes and the lengthening of the teaching day). As a result, the space factor for classrooms changed from 1.2 NASM to 1.23 NASM.

Commencing with the 2001 report, Category 5 (Library and Study Space) has been renamed Campus Study Space & Library Facilities to reflect more accurately how this space is being utilized.
Subcategory 12.3 (Student Computer Rooms) is now reported in Category 5 under Subcategory 5.4 (Computer-Equipped Study Space). This type of space is defined as campus-wide electronically equipped computer rooms available for students for study.

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[3]MGT Consultants, *Survey of Space and Utilization Guidelines and Standards in the Fifty States*, Report submitted to Mr. William L. Storey, Project Director, California Postsecondary Education Commission (Sacramento, March 31, 1989). Its findings are summarized in *University Space Standards in North America* (Council of Ontario Universities, 1990).

[4]MGT of America, Inc., *Space Standards for Selected States Higher Education Systems*, September 1999.

Commencing with the 2001 report, other research appointments are included in the Faculty supplement calculation, category 4.2. Also technicians, if they occupy offices, are counted in category 4.4.

Commencing with the 2001 report, Table 1: Inventory of University Space no longer reports space that is "Under Construction" and "Scheduled for Demolition".

NOTE: Because of the above changes and improvements, caution should be made in making comparisons with the 1998 report.

Some Committee Activities since 1987

- Review and publication of the institutional responses to triennial surveys of physical resources. (ongoing)
- Produced a Users' Guide for completing space surveys (1992, 1995, 1998, 2001).
- Conducted a study of classroom utilization in Ontario universities (joint project with the "Ontario Ministry"). (late 1980s)
- Examined Building Blocks formula in relation to university space standards in other North American jurisdictions. (1990)
- Reviewed space guidelines for performance oriented disciplines (e.g., Music, Film, Dance). (1991)
- Investigated the impact of computing on several space categories. (1992 to present)
- The Committee reviewed the library volume equivalencies used in the generation of stack space entitlement. With the assistance of OCUL, the committee adopted the methodology used by Canadian Association of Research Libraries (CARL). (1995)
- Provided background information and scenarios for PriceWaterhouseCoopers to examine the impact of the anticipated increase of students on the existing physical facilities of Ontario universities. (1998)
- Classroom surveys conducted in 1997 and 1999.
- Working with the COU Joint Task Force of CSAO and OAPPA on Facilities Condition Assessment. (1999 to present)
- Provided input to COU on the impact of university facilities on increased enrolment due to double cohort. (1999 to present)
- Presentation at CAUBO conference entitled "Where Are We Going to Put Them?" (June 2001)
- Reviewed and/or updated classroom formula, deans' space, computer space. (1999 to 2002)

Section 2

AN OVERVIEW

1977-78 to 2001-02

NOTES

Tables A through I show actual and generated space inventory figures by COU space categories from 1977-78 to 2001-02. The reader should be aware that this data are not directly comparable during this time period, for a number of reasons:

- In the 1977-78 and 1980-81 reports, data were reported in NASF (net assignable square feet). For comparability purposes, the data were converted to NASM (net assignable square metres) using a factor of 10.764.

- A consistent set of institutions is not included for all survey years.
  1977-78: Algoma, Hearst, Nipissing, OISE and OCAD were not included.
  1980-81: Algoma, Hearst, Nipissing, and OISE were not included.
  1983-84: Hearst and partial data for OISE were not included.
  1986-87: Algoma, Hearst, Nipissing, OISE, and OCAD reported data, but were not included in the summary data because "COU standards can't be applied to small or special purpose institutions".
  1989-90: Algoma, OISE, and OCAD were not included; Hearst and Nipissing reported data but were not included in the summary data. See 1986-87 note.
  1998-99: OISE is included with Toronto (St. George) data.

- The COU Task Force to Review COU Space Standards revised some space factors and input measures for the 1986-87 report. A number of minor changes were made to most categories, but the space factors for Academic and Administrative Office changed most dramatically as seen in the following table:

Category	COU Space Factor: 1977-78 to 1983-84	COU Space Factor: 1986-87 to 2001-02
Academic Office (4)	19.516 NASM per FTE Faculty 3.717 NASM per FTE Graduate Student Factors for faculty include a provision for academic support staff and service.	13.0 NASM per FTE Faculty x 1.15 4.0 NASM per FTE Graduate Student 30% of total generated for faculty and graduate students.
Administrative Office (10)	9.0 NASM Factor per student includes a provision for service space.	13.0 NASM 30% of total generated for non-academic staff.

Please see *Building Blocks Volume 7. Final Report of the Task Force to Review COU Space Standards* for revisions made to all categories.

The reader should be aware that comparisons should not be made in "generated space".

- Commencing with the 1992-93 report, COU has included federated and affiliated colleges in the triennial survey, in response to the "Ontario Ministry's" funding requirements. Data on space and activities at all of these institutions are now fully integrated into the reports of their constituent universities.

- Commencing with the 1992-93 report, Nipissing University appears as a separate institution – in previous years Nipissing was reported as an affiliated college of Laurentian University.

- In conducting the 1995-96 survey, special efforts were made to ensure that the data were consistent with other sources of information, such as student enrolment data reported to the "Ontario Ministry", and that significant variances from the previous report were justified. Work will continue to improve the completeness and consistency of reporting for the triennial surveys. The Committee will continue to review the formula as changes in university program delivery and administrative requirements dictate.

- Commencing with the 1995-96 report, the library equivalency calculation was changed.

- Prior to 2001-02, caution should be exercised when analyzing Class Lab and Lab-Research data. The figures may not necessarily agree between Table 2 and the institutional/summary tables. Table 2 includes all space, but the institutional/summary tables only include the space in those disciplines that can be categorized in Groups A to E (for Lab-Research) and Groups W to Z (Class Lab).

HIGHLIGHTS (Tables)

Table A: Total ACTUAL Space Inventory by COU Space Categories, 1977-78 to 2001-02
This table shows the change in actual inventory by the 20 COU space categories in the past 24 years.

Table B: Percentage Distribution of Total ACTUAL Space Inventory by COU Space Categories, 1977-78 to 2001-02
This table compares the percentage distribution of space among the 20 COU space categories between 1977-78 and 2001-02.

The table shows that the total percentage of space devoted to *formula areas* has decreased by 4.6% in the past 24 years, compared to a 5.9% increase in *non-formula areas* (mainly due to the increase in residence space).

The figures show that the distribution of space among the 20 COU space categories is relatively consistent over time: in fact, only *Classrooms, Lab Undergraduate* and *Academic Office & Related* space showed any "significant" change.

- *Classroom* space occupied 5.6% of the total space in 1977-78, but only 4.8% in 2001-02 - a change of -0.8% percentage points.
- In 1977-78 *Lab Undergraduate* space occupied 8.7% of the total space; by 2001-02 that figure declined to 5.8% - a change of -2.8% percentage points.
- *Academic Office & Related* space increased from 8.2% of the total space in 1977-78 to 9.4% in 2001-02 - a change of +1.2% percentage points.

Table C: Percentage Distribution of Total ACTUAL Space Inventory by COU Formula Space Categories, 1977-78 to 2001-02
This table shows the same data as in Table B, but includes only formula space.

The data show that:

- The percentage of *Classroom space* actually declined from 10.9% to 10.1% of the total formula space.
- *Lab Undergraduate's* share of the total formula space declined from 16.7% to 12.4%.

Table D: Total ACTUAL Space Inventory (NASM) by COU Formula Space Classification, 1977-78 to 2001-02
This table shows actual space inventory by formula space classifications for the past 24 years.

The table also shows the ratio between the *Total Formula area (NASM)* and *FTE Students*. This ratio has ranged between 9.7 and 11.6 in the past 24 years. In 2001-02, there was only 9.7 NASM / FTE student; the lowest rate in the past 24 years. By comparison, in 1980-81 there were 11.6 NASM / FTE student; the highest rate in the past 24 years.

Table E: Total GENERATED Space (NASM) by COU Formula Space Classification, 1977-78 to 2001-02

This table shows the *Generated* space by formula space classification. This table is comparable to Table C, which shows actual space by formula space classification.

The ratio between *Total Formula areas (NASM)* and *FTE Students* has remained relatively constant over time at approximately 12 NASM / FTE Student.

Table F: Percentage Change of GENERATED Space (NASM) by COU Formula Space Classification, 1977-78 and 2001-02

This table compares the percentage distribution of generated space among the COU formula categories between 1977-78 and 2001-02.

Table G: ACTUAL Inventory / GENERATED Space (NASM) by COU Formula Space Classification, 1992-93, 1998-99, and 2001-02

This table compares *Actual* and *Generated* space by COU formula space classification in 1992-93, 1998-99, and 2001-02.

Between 1992-93 and 2001-02, the total space inventory increased by 165,000 NASM, while according to the COU space formula, 400,000 NASM is the space required; and the Actual Inventory / Generated Space figure declined from 83.2% to 78.2%.

Academic and Administrative Office space is further broken down between office space and support space. There is a deficiency in academic space – both office and support space. For administrative space, the office space is sufficient according to the COU space standards, but the support space is twice what it should be. By definition, administrative support space includes: conference rooms, reference libraries, file rooms, vaults, photocopy rooms, computer rooms, waiting and reception areas, interview rooms, storage areas, lunch rooms and departmental lounges.

Table H: Ratio of ACTUAL Inventory to GENERATED Space (NASM) by Formula Space Classification, 1977-78 to 2001-02

This table shows the actual inventory / generated space for each major COU space classification.

Table I: Historical Summary of Statistics, 1986-87 to 2001-02

This table shows various space-related historical ratios.

Table A

Total ACTUAL Space Inventory by COU Space Categories, 1977-78 to 2001-02

Cat. # Space Category	1977-78	1980-81	1983-84	1986-87	1989-90	1992-93	1995-96	1998-99	2001-02
Formula Areas (NASM)									
1. Classroom Facilities	209,776	210,269	215,897	206,972	218,568	247,913	256,078	260,194	265,015
2. Lab Undergrad	323,156	331,267	332,034	311,046	310,303	326,451	333,493	325,353	323,384
3. Lab Grad & Faculty	230,534	232,485	250,410	300,052	318,474	339,867	345,662	349,394	367,422
4. Acad. Office & Related	304,711	311,910	335,637	355,143	382,202	457,342	463,055	490,985	519,890
5. Campus Study Space & Library Facilities	243,173	256,235	264,178	264,431	280,579	318,214	326,963	325,471	343,363
6. Recreation/Athletic Space	127,976	142,962	155,306	153,520	158,880	168,970	180,809	177,215	186,153
7. Food Service	92,991	92,307	90,557	92,746	90,372	106,188	106,024	105,743	106,121
8. Bookstore & Merch. Facilities	26,572	28,214	29,104	28,694	29,254	30,031	34,350	38,037	37,804
9. Plant Maintenance	37,421	40,136	37,064	43,122	44,833	50,562	50,893	52,434	51,641
10. Admin. Office & Related	135,173	138,895	149,336	164,200	180,054	192,525	211,166	200,089	196,723
11. AV / TV Facilities	13,399	13,817	14,182	13,609	13,363	14,264	12,722	12,983	11,996
12. Central Services	41,246	38,217	43,435	47,110	48,276	50,849	50,917	53,180	34,225
13. Health Service Facilities	5,380	5,775	5,231	6,206	5,980	5,617	6,723	7,286	8,132
14. Student Activity Space	93,721	88,887	89,472	80,647	80,633	92,344	102,238	101,491	101,998
15. Assembly, Exhibition Facilities	45,462	46,079	47,298	44,185	47,349	56,281	56,043	54,812	59,687
Subtotal - Formula Areas	1,930,691	1,977,456	2,059,141	2,111,683	2,209,120	2,457,418	2,537,136	2,554,667	2,613,554
16. Non-Assignable (SM)	1,200,599	1,233,516	1,190,652	1,280,366	1,370,036	1,544,729	1,655,401	1,700,105	1,714,576
Non-Formula Areas (NASM)									
17. Residential Space	520,716	536,874	575,808	584,118	630,660	808,758	843,940	867,611	964,840
18. Animal Space	12,484	10,304	11,118	7,440	7,554	7,815	9,333	9,931	10,324
19. Other	37,634	40,453	41,701	61,229	57,968	70,222	73,245	82,246	157,215
20. Health Sci. Clinical Facilities	27,299	51,465	53,233	92,177	79,927	70,696	72,824	78,403	80,440
Subtotal - Non-Formula Areas	598,132	639,095	681,860	744,964	776,109	957,491	999,342	1,038,191	1,212,818
Total	3,729,423	3,850,067	3,931,653	4,137,013	4,355,265	4,959,638	5,191,879	5,292,963	5,540,949

CAUTION: See NOTES section on pages 15 and 16.

Table B

Percentage Distribution of Total ACTUAL Space Inventory by COU Space Categories, 1977-78 to 2001-02

Cat. #	Space Category	1977-78	1980-81	1983-84	1986-87	1989-90	1992-93	1995-96	1998-99	2001-02
Formula Areas (NASM)										
1.	Classroom Facilities	5.6%	5.5%	5.5%	5.0%	5.0%	5.0%	4.9%	4.9%	4.8%
2.	Lab Undergrad	8.7%	8.6%	8.4%	7.5%	7.1%	6.6%	6.4%	6.1%	5.8%
3.	Lab Grad & Faculty	6.2%	6.0%	6.4%	7.3%	7.3%	6.9%	6.7%	6.6%	6.6%
4.	Acad. Office & Related	8.2%	8.1%	8.5%	8.6%	8.8%	9.2%	8.9%	9.3%	9.4%
5.	Campus Study Space & Library Facilities	6.5%	6.7%	6.7%	6.4%	6.4%	6.4%	6.3%	6.1%	6.2%
6.	Recreation/Athletic Space	3.4%	3.7%	4.0%	3.7%	3.6%	3.4%	3.5%	3.3%	3.4%
7.	Food Service	2.5%	2.4%	2.3%	2.2%	2.1%	2.1%	2.0%	2.0%	1.9%
8.	Bookstore & Merch. Facilities	0.7%	0.7%	0.7%	0.7%	0.7%	0.6%	0.7%	0.7%	0.7%
9.	Plant Maintenance	1.0%	1.0%	0.9%	1.0%	1.0%	1.0%	1.0%	1.0%	0.9%
10.	Admin. Office & Related	3.6%	3.6%	3.8%	4.0%	4.1%	3.9%	4.1%	3.8%	3.6%
11.	AV / TV Facilities	0.4%	0.4%	0.4%	0.3%	0.3%	0.3%	0.2%	0.2%	0.2%
12.	Central Services	1.1%	1.0%	1.1%	1.1%	1.1%	1.0%	1.0%	1.0%	0.6%
13.	Health Service Facilities	0.1%	0.1%	0.1%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%
14.	Student Activity Space	2.5%	2.3%	2.3%	1.9%	1.9%	1.9%	2.0%	1.9%	1.8%
15.	Assembly, Exhibition Facilities	1.2%	1.2%	1.2%	1.1%	1.1%	1.1%	1.1%	1.0%	1.1%
Subtotal - Formula Areas		51.8%	51.4%	52.4%	51.0%	50.7%	49.5%	48.9%	48.3%	47.2%
16.	**Non-Assignable (SM)**	32.2%	32.0%	30.3%	30.9%	31.5%	31.1%	31.9%	32.1%	30.9%
Non-Formula Areas (NASM)										
17.	Residential Space	14.0%	13.9%	14.6%	14.1%	14.5%	16.3%	16.3%	16.4%	17.4%
18.	Animal Space	0.3%	0.3%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
19.	Other	1.0%	1.1%	1.1%	1.5%	1.3%	1.4%	1.4%	1.6%	2.8%
20.	Health Sci. Clinical Facilities	0.7%	1.3%	1.4%	2.2%	1.8%	1.4%	1.4%	1.5%	1.5%
Subtotal - Non-Formula Areas		16.0%	16.6%	17.3%	18.0%	17.8%	19.3%	19.2%	19.6%	21.9%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

CAUTION: See NOTES section on pages 15 and 16.

Table C

Percentage Distribution of Total ACTUAL Space Inventory by COU Formula Space Categories, 1977-78 to 2001-02

Cat. #	Space Category	1977-78	1980-81	1983-84	1986-87	1989-90	1992-93	1995-96	1998-99	2001-02
Formula Areas (NASM)										
1.	Classroom Facilities	10.9%	10.6%	10.5%	9.8%	9.9%	10.1%	10.1%	10.2%	10.1%
2.	Lab Undergrad	16.7%	16.8%	16.1%	14.7%	14.0%	13.3%	13.1%	12.7%	12.4%
3.	Lab Grad & Faculty	11.9%	11.8%	12.2%	14.2%	14.4%	13.8%	13.6%	13.7%	14.1%
4.	Acad. Office & Related	15.6%	15.8%	16.3%	16.8%	17.3%	18.6%	18.3%	19.2%	19.9%
5.	Campus Study Space & Library Facilities	12.6%	13.0%	12.8%	12.5%	12.7%	12.9%	12.9%	12.7%	13.1%
6.	Recreation/Athletic Space	6.6%	7.2%	7.5%	7.3%	7.2%	6.9%	7.1%	6.9%	7.1%
7.	Food Service	4.8%	4.7%	4.4%	4.4%	4.1%	4.3%	4.2%	4.1%	4.1%
8.	Bookstore & Merch. Facilities	1.4%	1.4%	1.4%	1.4%	1.3%	1.2%	1.4%	1.5%	1.4%
9.	Plant Maintenance	1.9%	2.0%	1.8%	2.0%	2.0%	2.1%	2.0%	2.1%	2.0%
10.	Admin. Office & Related	7.0%	7.0%	7.3%	7.8%	8.2%	7.8%	8.3%	7.8%	7.5%
11.	AV / TV Facilities	0.7%	0.7%	0.7%	0.6%	0.6%	0.6%	0.5%	0.5%	0.5%
12.	Central Services	2.1%	1.9%	2.1%	2.2%	2.2%	2.1%	2.0%	2.1%	1.3%
13.	Health Service Facilities	0.3%	0.3%	0.3%	0.3%	0.3%	0.2%	0.3%	0.3%	0.3%
14.	Student Activity Space	4.9%	4.5%	4.3%	3.8%	3.7%	3.8%	4.0%	4.0%	3.9%
15.	Assembly, Exhibition Facilities	2.4%	2.3%	2.3%	2.1%	2.1%	2.3%	2.2%	2.1%	2.3%
Total - Formula Areas		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

CAUTION: See NOTES section on pages 15 and 16.

Table D

Total ACTUAL Space Inventory (NASM) by COU Formula Space Classification and NASM per FTE Student, 1977-78 to 2001-02

Cat. #	Space Classification	1977-78	1980-81	1983-84	1986-87	1989-90	1992-93	1995-96	1998-99	2001-02
Formula Areas										
1	Classroom Facilities	209,776	210,269	212,434	206,972	218,568	247,913	256,078	260,194	265,015
2	Class Lab	323,156	331,267	332,034	311,046	308,474	321,919	326,708	323,541	323,384
3	Lab - Research Facilities	230,534	232,485	250,106	300,052	312,657	335,255	340,867	345,767	367,422
4	Academic Office and Related	304,711	311,910	326,471	298,472	382,202	457,342	463,055	490,985	519,890
10	Administrative Office	135,173	138,895	146,886	220,871	180,054	192,525	211,166	200,089	196,723
5.	Campus Study Space & Library Facilities	243,173	256,235	259,548	264,431	280,579	318,214	326,963	325,471	343,363
6	Physical Education/Athletics	127,976	142,962	155,306	153,520	158,880	168,970	180,809	177,215	186,153
7-9, 11-15	Other *	356,191	353,432	349,839	356,319	360,060	406,136	419,910	425,966	411,604
Total - Formula Areas		1,930,691	1,977,456	2,032,624	2,111,683	2,201,474	2,448,274	2,525,556	2,549,228	2,613,554
FTE Students		**170,587**	**170,835**	**192,624**	**192,838**	**215,184**	**248,792**	**241,098**	**240,986**	**268,281**
Total Formula Areas (NASM) / FTE Students		**11.3**	**11.6**	**10.6**	**11.0**	**10.2**	**9.8**	**10.5**	**10.6**	**9.7**

* Includes Food Service, Bookstore & Merch. Facilities, Plant Maintenance, Audio-Visual Television Facilities, Central Services, Health Service Facilities, Student Activity Space, and Assembly/Exhibition Facilities.

In 1986-87, Academic Office was the sum of categories 4.1, 4.2, 4.3 and 4.5. Administrative Office was the sum of categories 4.4, 10.1 and 10.2.
Prior to 2001-02, actual space figures do not include space where the discipline has not been categorized into Group A to E (for Labs: Research) and Group W to Z (for Class Lab). Therefore these numbers do not agree with Table A.

CAUTION: See NOTES section on pages 15 and 16.

Table E

Total GENERATED Space (NASM) by COU Formula Space Classification and NASM per FTE Student, 1977-78 to 2001-02

Cat #	Space Classification	1977-78	1980-81	1983-84	1986-87	1989-90	1992-93	1995-96	1998-99	2001-02
Formula Areas:										
1	Classroom Facilities	206,023	206,323	232,724	231,405	258,220	298,551	289,317	289,183	329,986
2	Class Lab	310,674	330,651	339,885	323,758	324,505	358,283	357,967	370,708	408,197
3	Lab - Research Facilities	256,306	251,128	281,617	327,236	352,848	391,027	403,446	409,887	454,829
4	Academic Office and Related	293,813	290,158	304,436	342,078	466,412	514,831	499,819	507,443	603,847
10	Administrative Office	142,632	142,839	161,116	220,927	162,467	165,790	162,436	148,131	158,817
5.	Campus Study Space & Library Facilities	273,115	293,555	328,463	327,804	373,000	423,698	432,638	466,966	534,670
6	Physical Education/Athletics	162,086	164,129	184,107	187,554	203,665	242,913	236,988	234,887	256,453
7-9, 11-15	Other *	372,427	372,968	420,693	428,490	475,218	548,808	535,938	535,864	593,958
Total - Formula Areas		2,017,076	2,051,750	2,253,041	2,389,252	2,616,335	2,943,901	2,918,549	2,963,069	3,340,758
FTE Students		**170,587**	**170,835**	**192,624**	**192,838**	**215,184**	**248,792**	**241,098**	**240,986**	**268,281**
Total Formula Areas (NASM) / FTE Students		**11.8**	**12.0**	**11.7**	**12.4**	**12.2**	**11.8**	**12.1**	**12.3**	**12.5**

* Includes Food Service, Bookstore & Merch. Facilities, Plant Maintenance, Audio-Visual Television Facilities, Central Services, Health Service Facilities, Student Activity Space, and Assembly/Exhibition Facilities.

CAUTION: See NOTES section on pages 15 and 16.

Table F

Percentage Distribution of GENERATED Space (NASM) by COU Formula Space Classification, 1977-78 to 2001-02

Cat #	Space Classification	1977-78	1980-81	1983-84	1986-87	1989-90	1992-93	1995-96	1998-99	2001-02
Formula Areas:										
1	Classroom Facilities	10.2%	10.1%	10.3%	9.7%	9.9%	10.1%	9.9%	9.8%	9.9%
2	Class Lab	15.4%	16.1%	15.1%	13.6%	12.4%	12.2%	12.3%	12.5%	12.2%
3	Lab - Research Facilities	12.7%	12.2%	12.5%	13.7%	13.5%	13.3%	13.8%	13.8%	13.6%
4	Academic Office and Related	14.6%	14.1%	13.5%	14.3%	17.8%	17.5%	17.1%	17.1%	18.1%
10	Administrative Office	7.1%	7.0%	7.2%	9.2%	6.2%	5.6%	5.6%	5.0%	4.8%
5	Campus Study Space & Library Facilities	13.5%	14.3%	14.6%	13.7%	14.3%	14.4%	14.8%	15.8%	16.0%
6	Physical Education/Athletics	8.0%	8.0%	8.2%	7.8%	7.8%	8.3%	8.1%	7.9%	7.7%
7-9, 11-15	Other *	18.5%	18.2%	18.7%	17.9%	18.2%	18.6%	18.4%	18.1%	17.8%
Total - Formula Areas		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

* Includes Food Service, Bookstore & Merch. Facilities, Plant Maintenance, Audio-Visual Television Facilities, Central Services, Health Service Facilities, Student Activity Space, and Assembly/Exhibition Facilities.

CAUTION: See NOTES section on pages 15 and 16.

Table G

ACTUAL Inventory / GENERATED Space (NASM) by COU Formula Space Classification,
1992-93, 1998-99 and 2001-02

Cat. #	Space Classification	1992-93 Generated Space (G)	1992-93 Actual Inventory (I)	1992-93 % I/G	1998-99 Generated Space (G)	1998-99 Actual Inventory (I)	1998-99 % I/G	2001-02 Generated Space (G)	2001-02 Actual Inventory (I)	2001-02 % I/G
1	Classroom Facilities	298,551	247,913	83.0%	289,183	260,194	90.0%	329,986	265,015	80.3%
2	Class Lab	358,283	321,919	89.9%	370,708	323,541	87.3%	408,197	323,384	79.2%
3	Lab - Research Facilities	391,027	335,255	85.7%	409,887	345,767	84.4%	454,829	367,422	80.8%
4	Academic Office and Related	514,831	457,342	88.8%	507,443	490,985	96.8%	603,847	519,890	86.1%
10	Administrative Office and Related	165,790	192,525	116.1%	148,131	200,089	135.1%	158,817	196,723	123.9%
4 & 10	*Total Office Space*	*680,621*	*649,867*	*95.5%*	*655,574*	*691,074*	*105.4%*	*762,665*	*716,613*	*94.0%*
4.5 & 10.2	*Total Office Support Space*	*157,066*	*149,422*	*95.1%*	*151,286*	*173,407*	*114.6%*	*176,000*	*174,991*	*99.4%*
5	Campus Study Space & Library Facilities	423,698	318,214	75.1%	466,966	325,471	69.7%	534,670	343,363	64.2%
6	Physical Education/Athletics	242,913	168,970	69.6%	234,887	177,215	75.4%	256,453	186,153	72.6%
7-9, 11-15	Other *	548,808	406,136	74.0%	535,864	425,966	79.5%	593,958	411,604	69.3%
Total - Formula Areas		2,943,901	2,448,274	83.2%	2,963,069	2,549,228	86.0%	3,340,758	2,613,554	78.2%
4.1-4.4	Academic Office Space	396,024	369,894	93.4%	390,341	389,155	99.7%	464,498	411,589	88.6%
10.1	Administrative Office Space	127,531	130,550	102.4%	113,947	128,512	112.8%	122,167	130,034	106.4%
4.5	Academic Office Support Space	118,807	87,447	73.6%	117,102	101,830	87.0%	139,349	108,301	77.7%
10.2	Administrative Office Support Space	38,259	61,975	162.0%	34,184	71,577	209.4%	36,650	66,690	182.0%

The above shows a breakdown between academic and administrative office space and support space. There is a deficiency in academic space - both office and support space. For administrative space, the office space is sufficient according to the COU space standards, but the support space is twice what it should be. By definition, administrative support space includes: conference rooms, reference libraries, file rooms, vaults, photocopy rooms, computer rooms, waiting and reception areas, interview roooms, storage areas, lunch rooms and departmental lounges.

* Includes Food Service, Bookstore & Merch. Facilities, Plant Maintenance, Audio-Visual Television Facilities, Central Services, Health Service Facilities, Student Activity Space, and Assembly/Exhibition Facilities.

CAUTION: See NOTES section on pages 15 and 16.

Table H

Ratio of ACTUAL Inventory to GENERATED Space (NASM) by Formula Space Classification,
1977-78 to 2001-02

Cat. #	Space Classification	1977-78	1980-81	1983-84	1986-87	1989-90	1992-93	1995-96	1998-99	2001-02
1	Classroom Facilities	101.8	101.9	91.3	89.4	84.6	83.0	88.5	90.0	80.3
2	Class Lab	104.0	100.2	97.7	96.1	95.1	89.9	91.3	87.3	79.2
3	Lab - Research Facilities	89.9	92.6	88.8	91.7	88.6	85.7	84.5	84.4	80.8
4	Academic Office and Related	103.7	107.5	107.2	87.3	81.9	88.8	92.6	96.8	86.1
10	Administrative Office	94.8	97.2	91.2	100.0	110.8	116.1	130.0	135.1	123.9
4 and 10	*Total Office Space*	*n/a*	*n/a*	*n/a*	*94.1*	*89.2*	*95.5*	*101.8*	*105.4*	*93.8*
5.	Campus Study Space & Library Facilities	89.0	87.3	79.0	80.7	75.2	75.1	75.6	69.7	64.2
6	Physical Education/Athletics	79.0	87.1	84.4	81.9	78.0	69.6	76.3	75.4	72.6
7-9, 11-15	Other *	95.6	94.8	83.2	83.2	75.8	74.0	78.4	79.5	69.3
Total - Formula Areas		95.7	96.4	90.2	88.4	84.1	83.2	86.5	86.0	78.2
4.1-4.4	Academic Office Space	n/a	n/a	n/a	115.1	88.4	93.4	97.2	99.7	88.6
4.5	Academic Office Support Space	n/a	n/a	n/a	76.7	59.8	73.6	77.6	87.0	77.7
10.1	Administrative Office Space	n/a	n/a	n/a	68.0	98.5	102.4	110.2	112.8	106.4
10.2	Administrative Office Support Space	n/a	n/a	n/a	99.6	150.8	162.0	195.9	209.4	182.0

The above shows a breakdown between academic and administrative office space and support space. There is a deficiency in academic space - both office and support space. For administrative space, the office space is sufficient according to the COU space standards, but the support space is twice what it should be. By definition, administrative support space includes conference rooms, reference libraries, file & Computer rooms, vaults, photocopy rooms, waiting & reception areas, interview roooms, storage areas, lunch rooms and departmental lounges.

* Includes Food Service, Bookstore & Merch. Facilities, Plant Maintenance, Audio-Visual Television Facilities, Central Services, Health Service Facilities, Student Activity Space, and Assembly/Exhibition Facilities.

CAUTION: See NOTES section on pages 15 and 16.

Table I

Historical Summary of Statistics
1986-87 to 2001-02

	1986-87	1989-90	1992-93	1995-96	1998-99	2001-02
Undergraduate FTE Enrolment per Graduate FTE Enrolment	8.80	8.76	8.19	7.87	7.66	7.76
Number of Library Equivalent Volumes per Total FTE Enrolment	148.06	148.42	153.12	164.84	189.22	187.78
WSCH[1] per Undergraduate FTE Enrolment	3.38	3.23	4.18	2.98	3.10	3.09
Classroom NASM[2] per FTE Student	1.07	1.02	1.00	1.06	1.08	0.99
Academic Dept Office NASM per FTE Faculty	24.20	29.39	32.74	35.22	38.58	38.83
Graduate NASM per FTE Graduate Student	2.60	2.39	2.41	2.48	2.38	2.39
Research Space per FTE Faculty	24.32	24.04	24.00	25.92	27.17	27.44
Administrative NASM per FTE Non-Academic Office Staff	n/a	18.73	19.62	21.97	22.83	20.93
Campus Study Space and Library Facilities[3] NASM per FTE Student	1.37	1.30	1.28	1.36	1.35	1.28
Physical Education NASM per FTE Student	0.80	0.74	0.68	0.75	0.74	0.69
Maintenance NASM per Total Inventory NASM	0.015	0.015	0.015	0.014	0.015	0.013
Student Services NASM per FTE Student	1.62	1.46	1.43	1.53	1.55	1.34
Total NASM per FTE Student	10.95	10.23	9.84	10.48	10.58	9.74

[1] WSCH = Weekly Student Contact Hours

[2] NASM = Net Assignable Square Metres

[3] Prior to 2001-02 the figures exclude student computer space

CAUTION: See NOTES section on pages 15 and 16.

HIGHLIGHTS (Figures)

Figure 1 – Actual Inventory (NASM) / Generated Space by Functional Areas (with NASM for each functional area), 2001-02

This figure shows the ratio between actual and generated space in major COU formula categories. The amount of space devoted to each category is also shown.

In the major academic areas -*Classrooms, Class Labs,* and *Research* - the shortfall is about 20%.

Also, student support functions - *Campus Study Space & Library Facilities, Physical Education, and Other (Student & Central Services)* - occupy less space than is generated.

Therefore, universities' limited resources are being efficiently used in direct support of core teaching and research functions.

Figure 2 – Functional Breakdown of Formula Space Usage, 2001-02

This figure shows a breakdown of inventory in the COU formula categories (1 to 15). The diversity of university activity is reflected in the relative portions of the space categories.

Over 60% of the total formula space is accounted for by primary academic facilities *(Lab-Research, Library, Lab-Undergraduate, Academic Office, and Classrooms).*

Academic and Administrative office space has been subdivided into three categories to show the differences in the types of activities in these two categories.

- *Academic Office* (4) includes faculty offices (4.1), other academic appointments (4.2) and graduate student offices (4.3).
- *Non-Academic Office* (4 and 10) includes academic departmental support staff offices (4.4) and administrative office areas (10.1).
- *Office Support* (4 and 10) includes academic office support space (4.5) and administrative office support areas (10.2).

Figure 3 – Percentage Distribution of ACTUAL Space Inventory (NASM) Usage for Formula Areas, 1977-78 to 2001-02

This figure reflects the actual space inventory in the COU formula categories (1 to 15). The formula categories provide for the full range of functions and services needed in a contemporary university. These categories were then aggregated into eight (8) functional groups.

Changes in the relative proportions are due to: (1) the inclusion of the federated / affiliated institutions in 1992-93, (2) the building of new facilities, and (3) the reallocation of space.

Figure 4 - % Actual Inventory / Generated Inventory by Selected Functional Area, 1977-78 to 2001-02

This figure compares the ratio of generated space to actual inventory in selected functional areas. The time series showing *Administrative* and *Academic* space start in 1986-87, due to the change in definition of input measures commencing in 1986-87.

The graphs highlight space need in the Ontario university "system".

Figure 5 – Total Actual Inventory / Generated Inventory

This figure shows the total actual inventory compared to the total generated inventory from 1977-78 to 2001-02.

In all years, the ratio is less than 100, indicating a shortfall of adequate space in the university "system".

Figure 5 – Average Age of Buildings

The average age of buildings for all Ontario universities system has increased from 14.6 years in 1977-78 to 33.0 years in 2001-02.

Figure 6 – Total Formula Area (NASM) / FTE Students, 1977-78 to 2001-02

This figure compares actual space compared to generated space for the years 1977-78 to 2001-02, and the ratio between total formula areas and FTE students. The graph shows that the gap between the actual space that the institutions have and the space that they should have according to the COU space factor is widening over time. For example, in 1977-78 the gap between actual space per student was only 0.5 NASM; by 2001 the gap increased to 2.7 NASM.

Figure 7 – Allocation of NASM per FTE Student by Space Category – Generated and Actual Space, 2001-02

This pie chart shows the distribution of generated NASM per FTE Student (12.5 NASM) and actual NASM per FTE Student (9.7 NASM) by space category.

Figure 1

Actual Inventory (NASM) / Generated Space by Functional Areas (with NASM for each functional area), 2001-02

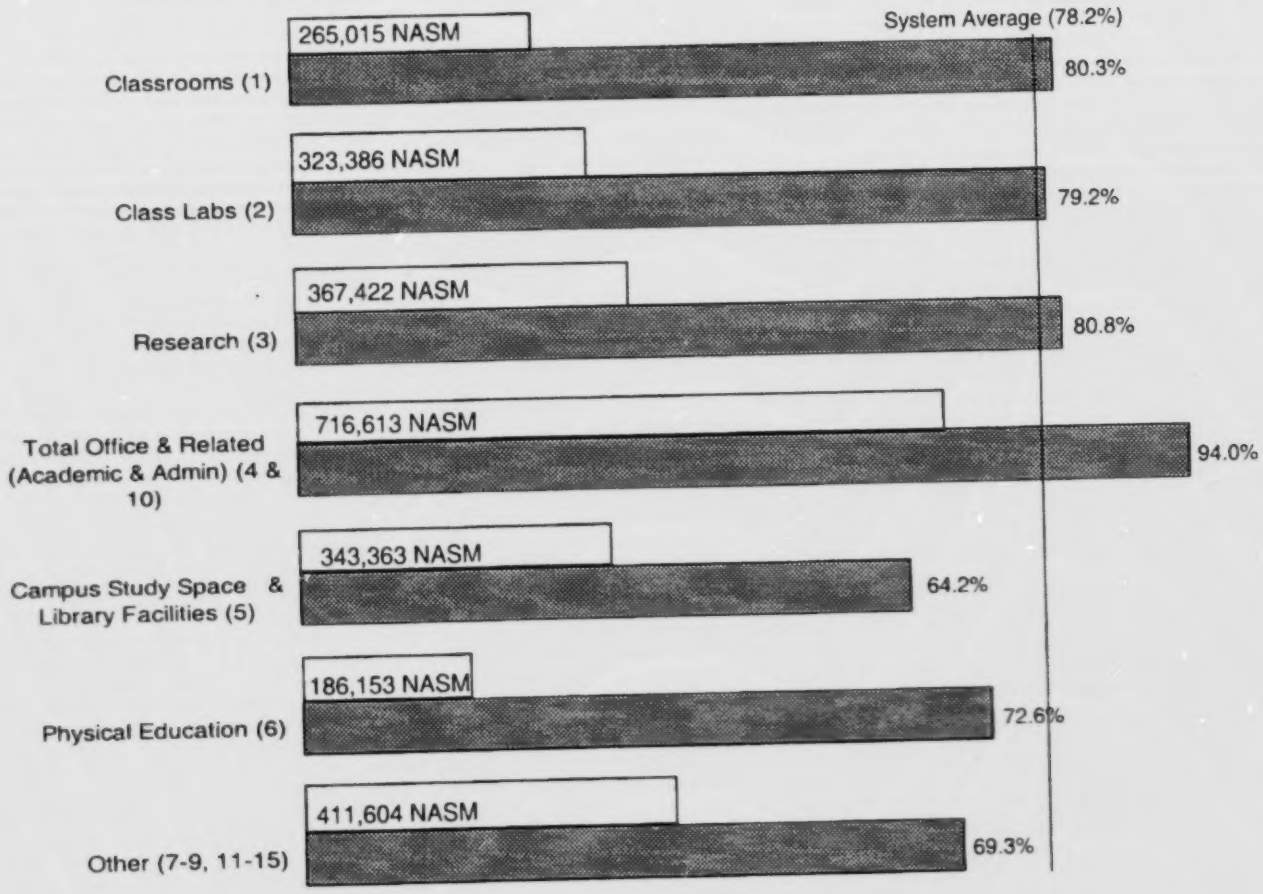
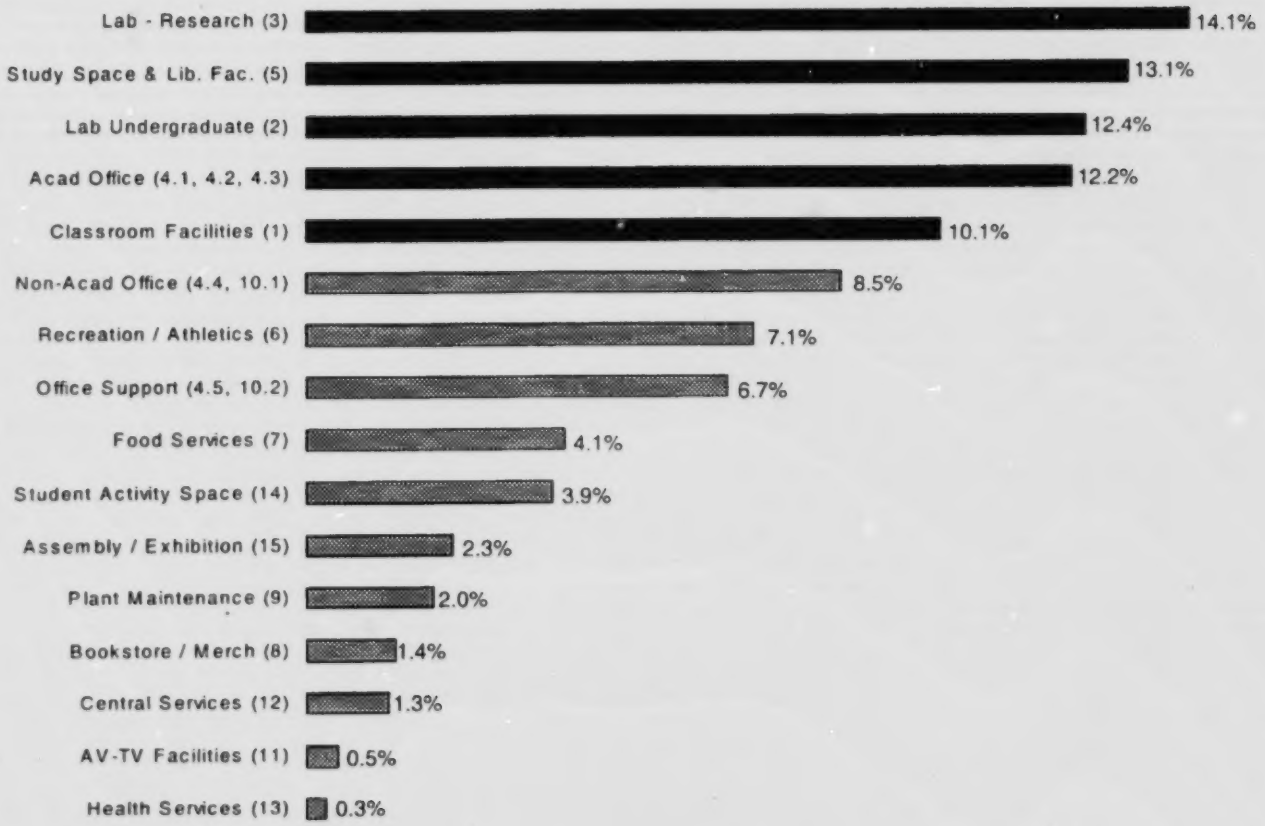


Figure 2

Functional Breakdown of Formula Space* Usage, 2001-02


Lab - Research (3) 14.1%
Study Space & Lib. Fac. (5) 13.1%
Lab Undergraduate (2) 12.4%
Acad Office (4.1, 4.2, 4.3) 12.2%
Classroom Facilities (1) 10.1%
Non-Acad Office (4.4, 10.1) 8.5%
Recreation / Athletics (6) 7.1%
Office Support (4.5, 10.2) 6.7%
Food Services (7) 4.1%
Student Activity Space (14) 3.9%
Assembly / Exhibition (15) 2.3%
Plant Maintenance (9) 2.0%
Bookstore / Merch (8) 1.4%
Central Services (12) 1.3%
AV-TV Facilities (11) 0.5%
Health Services (13) 0.3%

* Formula space is usable or assignable space for which space standards could normally be developed. The formula categories provide for the full range of functions and services needed in a contemporary university.

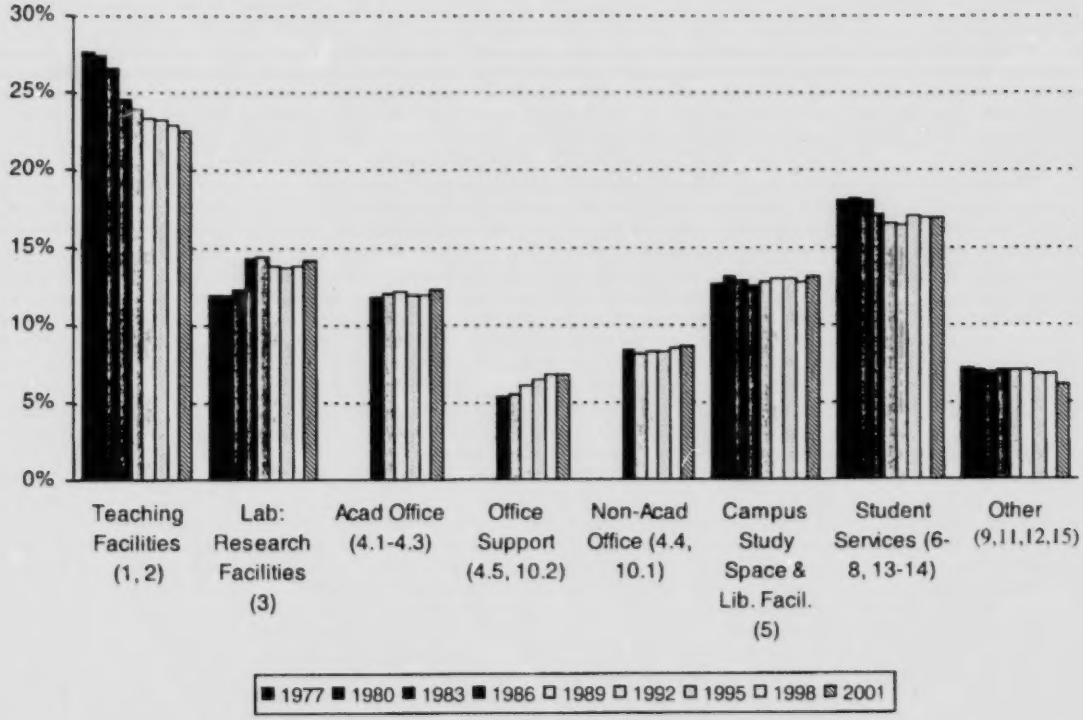
The first five categories refer to primary academic facilities.

The figures in brackets refer to the space category.

Total Formula Space = 2,613,557 NASM.

Figure 3

Percentage Distribution of ACTUAL Space Inventory (NASM) Usage for Formula Areas, 1977-78 to 2001-02



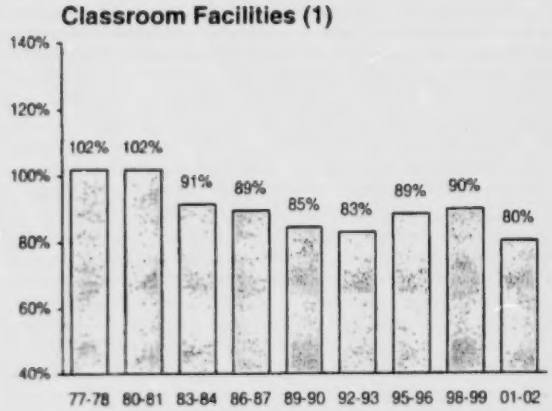
* Formula space is usable or assignable space for which space standards could normally be developed.

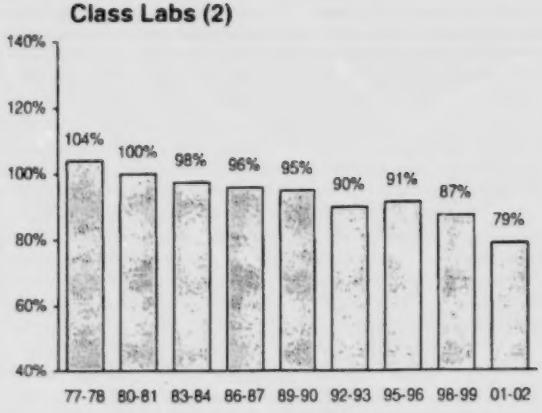
Teaching Facilities: Classroom and Lab Undergraduate
Student Services: Athletic/Recreation, Food Service, Bookstore, Health Service Facilities, Common Use/Student Activity
Other: AV/TV, Assembly/Exhibition Facilities, Plant Maintenance, Central Services

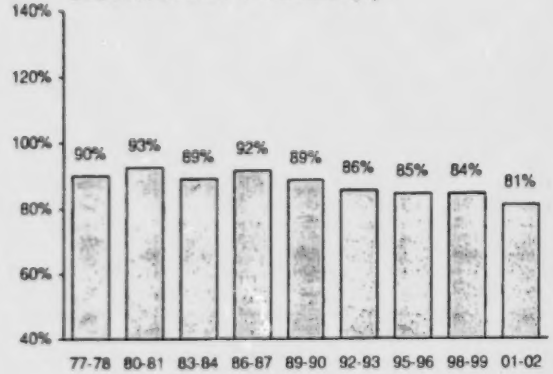
Prior to 1986-87, data not available for Acad. Office, Office Support and Non-Acad. Office.

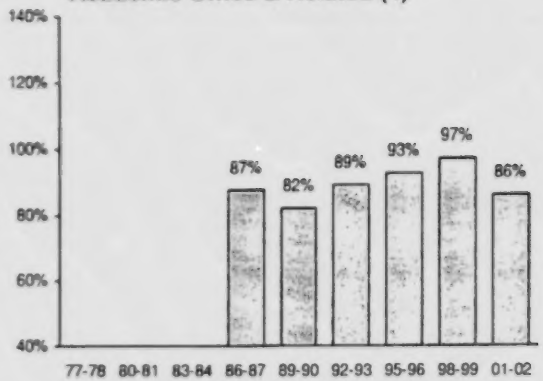
Figure 4

% Actual Inventory / Generated Space by Selected Functional Area 1977-78 to 2001-02







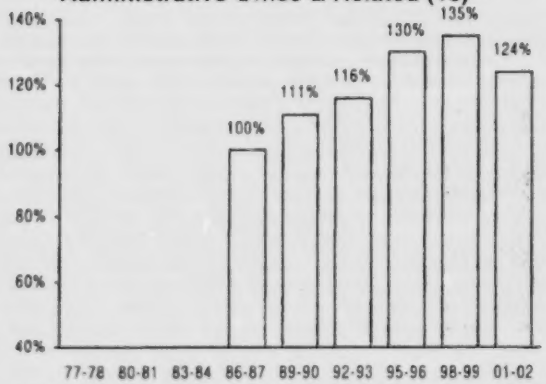


* Commencing in 1986-87, the input measure and space factor changed, so comparisons prior to 1986-87 are not possible.

Figure 4 (cont'd)

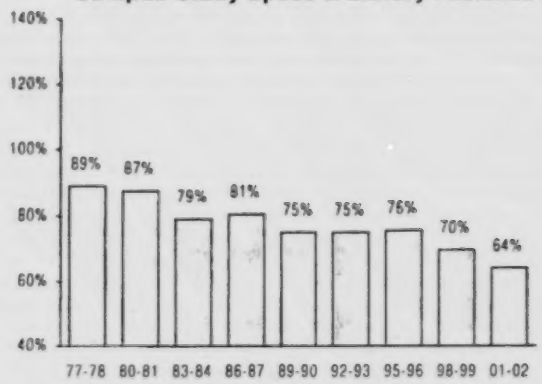
% Actual Inventory / Generated Space by Selected Functional Area 1977-78 to 2001-02

Administrative Office & Related (10) *

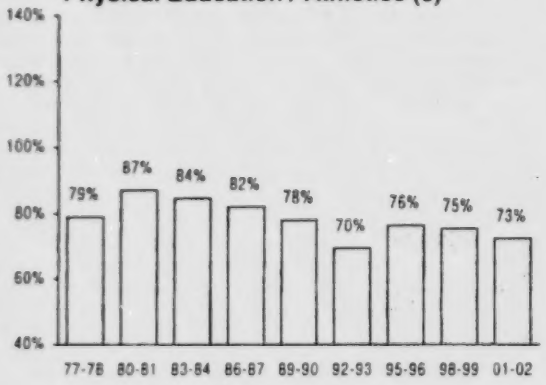


* Commencing in 1986-87, the input measure and space factor changed, so comparisons prior to 1986-87 are not possible.

Campus Study Space & Library Facilities (5)



Physical Education / Athletics (6)



Other (Maintenance / Student Services) (7-9, 11-15)

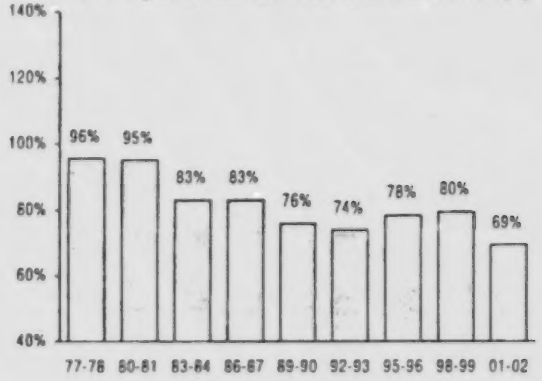
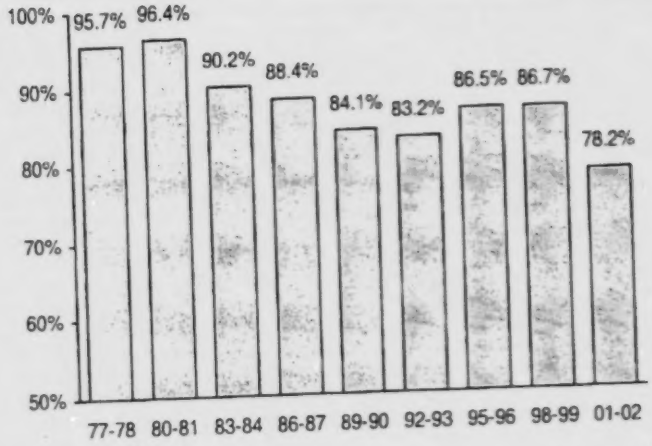


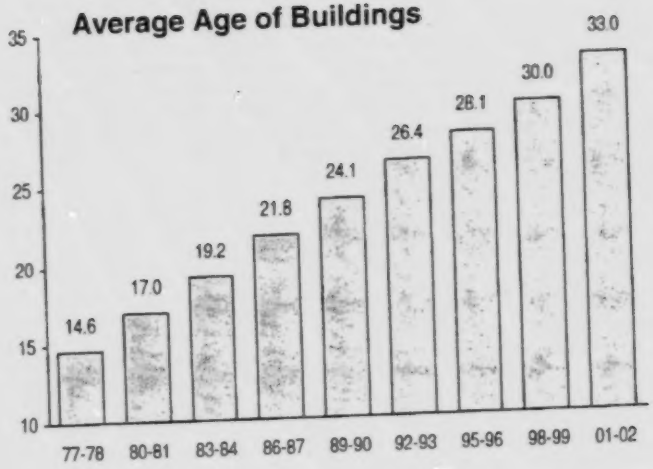
Figure 5

Total Actual Inventory / Generated Inventory and Average Age of Buildings 1977-78 to 2001-02

Total Actual Inventory / Generated Inventory



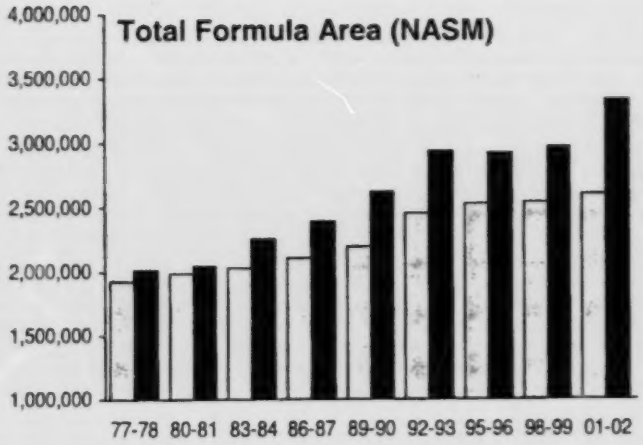
Average Age of Buildings

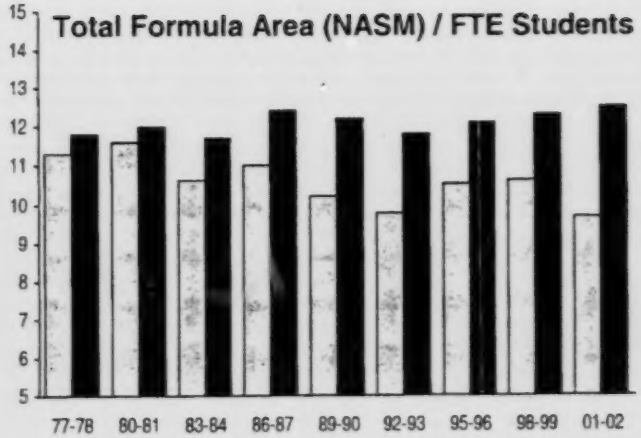


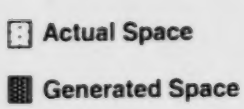
Year	Actual Inventory	Generated Inventory
1977-78	1,930,691	2,017,076
1980-81	1,977,456	2,051,750
1983-84	2,032,624	2,253,041
1986-87	2,111,683	2,389,252
1989-90	2,201,474	2,616,335
1992-93	2,448,275	2,943,901
1995-96	2,525,555	2,918,549
1998-99	2,549,230	2,963,070
2001-02	2,613,557	3,340,758

Figure 6

Total Formula Area (NASM) / FTE Students
1977-78 to 2001-02







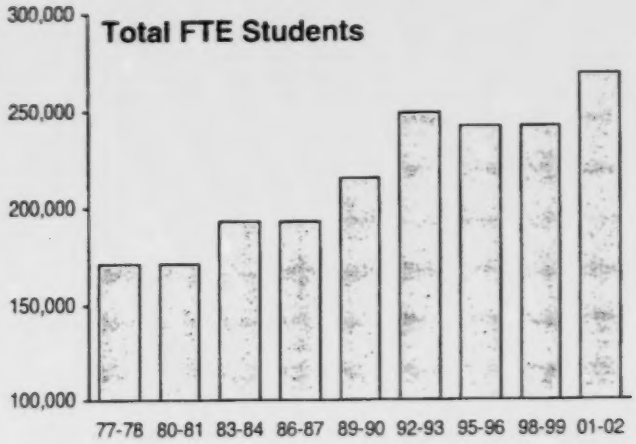
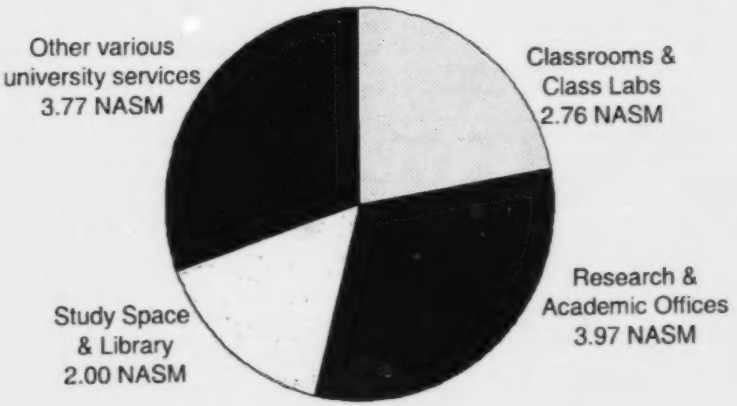


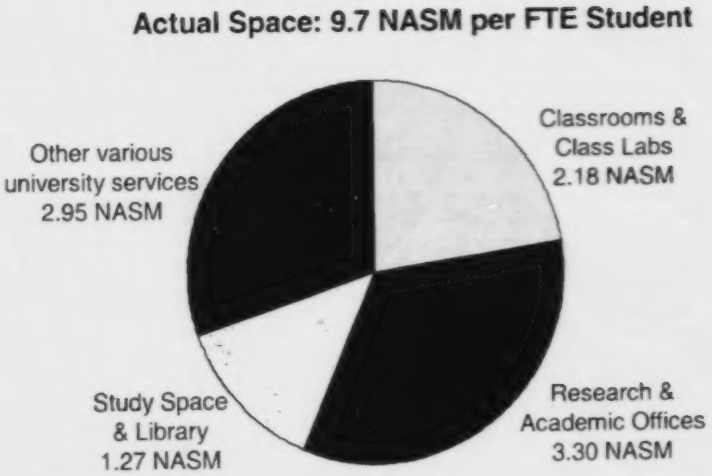
Figure 7

Allocation of NASM per FTE Student by Space Category – Generated and Actual Space 2001-02

Generated Space: 12.5 NASM per FTE Student


Other various university services 3.77 NASM
Classrooms & Class Labs 2.76 NASM
Research & Academic Offices 3.97 NASM
Study Space & Library 2.00 NASM

Actual Space: 9.7 NASM per FTE Student


Other various university services 2.95 NASM
Classrooms & Class Labs 2.18 NASM
Research & Academic Offices 3.30 NASM
Study Space & Library 1.27 NASM

	Actual Inventory	Generated Inventory
Classrooms and Class Labs	588,401	738,183
Research and Academic Offices	887,312	1,058,676
Campus Study Space & Lib Facilities	343,363	534,670
Other various University services	794,481	1,009,228

Section 3

INSTITUTIONAL TABLES

(as a result of the 2001-02 survey)

In interpreting the data from smaller and specialized institutions, it should be noted that the Building Blocks formula was developed for institutions having a full range of university programs and functions. The application of all 15 categories to a very small or special purpose institution may not be appropriate, so results must be interpreted with caution. The same considerations apply in the formula for analysis at the departmental level within an institution.

Table 1

Inventory of University Space, November 1, 2001

Institution	Categories 1-15 (NASM)	Category 16 (SM)	Categories 17-20 (NASM)	Scheduled for Demolition	Rentals	Gross Square Metres	Gross Sq. Metres / NASM (1-15, 17-20)
Brock	60,880.90	46,654.50	37,347.20	0.00	3,804.00	166,549.30	1.70
Carleton	121,601.80	79,793.24	51,913.29	0.00	0.00	288,494.00	1.66
Guelph	190,465.26	129,012.88	131,407.02	9,834.57	536.73	536,944.24	1.67
Lakehead	54,362.10	32,827.50	32,565.90	276.00	0.00	141,324.00	1.63
Laurentian	61,852.19	37,186.78	23,530.73	0.00	85.48	137,230.00	1.61
Laurentian (Algo)	10,811.54	1,318.86	2,071.60	788.40	379.40	14,228.00	1.10
Laurentian (Hear)	4,814.29	1,693.76	1,528.75	0.00	986.00	8,036.80	1.27
McMaster	182,602.20	94,330.00	108,025.43	0.00	0.00	463,052.69	1.59
Nipissing	15,582.00	7,276.00	22,098.00	0.00	382.00	44,956.00	1.19
OCAD	12,712.98	6,291.86	74.51	0.00	3,230.92	21,295.74	1.67
Ottawa	182,889.73	152,735.66	63,296.84	1,695.12	1,186.23	492,554.71	2.00
Queen's	210,804.16	143,305.41	85,279.00	6,347.80	0.00	522,685.60	1.77
Ryerson	106,528.20	21,479.10	43,131.70	323.70	1,241.40	231,995.00	1.55
Toronto (St. Grge)	474,763.91	316,143.89	156,944.90	303.84	4,018.85	1,113,466.00	1.76
Toronto (Miss)	39,355.13	30,547.67	23,167.78	0.00	0.00	106,485.00	1.70
Toronto (Scar)	32,796.66	22,880.00	11,662.25	1,500.00	0.00	78,793.00	1.77
Trent	37,814.00	26,780.00	21,285.00	0.00	1,495.00		
Waterloo	196,935.12	138,142.91	107,015.06	0.00	1,216.00	500,142.09	1.65
Western	253,216.00	151,194.00	120,359.00	739.00	0.00	605,407.00	1.62
WLU	58,370.40	39,885.28	43,143.59	0.00	0.00	142,539.61	1.40
Windsor	109,929.00	57,065.00	24,871.00	444.36	306.32	216,949.02	1.61
York (Keele)	180,432.00	165,411.00	93,812.00	0.00	0.00	495,388.00	1.81
York (Glen)	15,583.00	12,497.00	8,145.00	0.00	0.00	42,031.00	1.77
TOTAL	2,615,102.57	1,714,452.29	1,212,675.55	22,252.79	18,868.33	6,370,546.80	1.69

The inventory NASM figures for categories 1-15, 16 and 17-20 may not necessarily agree at some institutions with the inventory figures reported on Table 2.

Trent University did not report Gross Square Metres figures.

Table 2

Distribution of Actual Inventory by Major Space Category and Institution, 2001-02

	Classroom Facilities (1)	Lab Undergrad (2)	Lab Grad & Faculty (3)	Acad Office & Related (4)	Campus Study Space & Lib Facilities (5)	Recreation/ Athletic Space (6)	Food Service (7)	Bookstore & Merch Facilities (8)	Plant Mainten-ance (9)	Admin Office & Related (10)	AV / TV Facilities (11)	Central Services (12)
Brock	7,764	7,522	6,443	9,779	5,816	7,184	3,622	950	1,494	5,046	178	643
Carleton	11,947	16,592	12,667	27,677	15,252	9,914	6,501	1,969	1,781	8,946	1,335	1,225
Guelph	12,550	23,915	44,959	33,630	13,258	19,370	8,156	1,754	4,776	17,794	495	2,546
Lakehead	6,166	11,681	4,451	6,424	6,491	4,601	2,967	637	1,172	3,850	295	1,302
Laurentian	6,384	7,239	5,142	9,855	9,505	6,352	2,888	928	1,672	4,719	386	889
Laurentian (Algo)	780	692	0	813	2,233	3,644	175	87	346	1,069	0	454
Laurentian (Hear)	609	544	0	374	393	553	266	23	191	218	61	0
McMaster	15,418	18,413	39,339	37,088	25,637	9,303	5,188	2,260	4,690	11,620	854	3,140
Nipissing	2,799	2,917	166	1,435	2,019	2,549	1,022	0	0	1,254	230	329
OCAD	2,143	6,376	0	724	921	0	20	655	86	1,069	147	28
Ottawa	20,547	17,531	24,639	46,091	21,897	12,419	3,782	1,864	893	17,132	826	1,496
Queen's	16,450	24,178	35,261	45,288	32,892	14,035	8,142	3,066	2,694	12,598	246	1,629
Ryerson	14,012	32,030	4,286	14,046	8,269	6,157	4,498	1,286	2,547	9,829	737	1,310
Toronto (St Grge)	42,932	45,348	82,325	110,359	83,908	24,627	14,964	3,393	7,943	23,162	1,087	3,688
Toronto (Miss)	4,991	5,989	6,029	5,507	4,908	2,393	2,570	534	697	2,033	100	875
Toronto (Scar)	3,907	4,579	4,078	4,192	3,808	3,968	1,663	353	1,080	1,939	164	936
Trent	4,745	3,272	2,983	5,591	7,456	3,187	2,932	88	423	4,116	140	279
Waterloo	17,690	25,296	33,984	37,918	18,182	11,709	9,572	4,308	6,087	14,693	520	5,480
Western	31,412	31,391	31,929	48,206	31,889	16,167	10,841	4,407	5,891	21,972	904	3,903
WLU	7,168	4,799	2,181	9,229	8,174	6,164	2,510	870	1,087	7,505	413	727
Windsor	10,017	15,544	12,202	18,448	16,847	10,271	4,596	2,249	1,909	7,433	1,755	1,097
York (Keele)	22,309	17,034	14,172	43,985	21,769	8,741	8,137	5,838	3,840	17,702	1,105	2,057
York (Glen)	2,274	500	186	3,233	1,838	2,846	1,109	285	343	1,023	16	194
TOTAL	265,015	323,384	367,422	519,890	343,363	186,153	106,121	37,804	51,641	196,723	11,996	34,225

Table 2 (cont'd)

Distribution of Actual Inventory by Major Space Category and Institution, 2001-02

	Health Service Facilties (13)	Student Activity Space (14)	Assembly, Exhibition Facilities (15)	Subtotal Formula Areas (1 to 15)	Residential Space (17)	Animal Space (18)	Other (19)	Health Sci Clinical Facilities (20)	Subtotal Non-Formula (17 to 20)	Non-Assignable (16)	Total (1 to 20)
Brock	278	1,307	2,853	60,881	32,184	0	5,163	0	37,347	46,655	144,883
Carleton	537	3,336	1,922	121,602	39,826	296	11,792	0	51,913	79,793	253,308
Guelph	635	2,992	3,426	190,257	110,444	3,147	10,807	7,010	131,407	129,013	450,677
Lakehead	225	2,934	1,167	54,363	29,009	0	3,559	0	32,568	32,830	119,761
Laurentian	279	3,197	2,428	61,864	21,506	194	1,746	85	23,531	37,187	122,581
Laurentian (Algo)	0	302	216	10,812	2,072	0	0	0	2,072	1,319	14,202
Laurentian (Hear)	0	365	231	3,828	341	0	1,188	0	1,529	1,694	7,051
McMaster	449	5,621	3,582	182,602	45,257	1,365	1,812	59,593	108,026	94,330	384,958
Nipissing	0	862	0	15,582	21,981	117	0	0	22,098	7,276	44,956
OCAD	20	265	260	12,713	0	0	75	0	75	6,292	19,079
Ottawa	692	9,384	3,696	182,890	55,758	1,465	6,074	0	63,297	152,736	398,922
Queen's	1,195	6,853	6,277	210,804	78,903	1,314	5,026	84	85,326	143,276	439,406
Ryerson	104	5,047	2,372	106,528	18,596	0	24,536	0	43,132	21,479	171,139
Toronto (St.Grge)	1,376	16,971	12,682	474,764	86,250	0	60,342	10,353	156,945	316,144	947,853
Toronto (Miss)	113	1,752	864	39,355	22,408	0	760	0	23,168	30,548	93,071
Toronto (Scar)	93	1,463	575	32,797	10,898	0	764	0	11,662	22,880	67,339
Trent	121	2,481	0	37,814	16,563	354	4,368	0	21,285	26,781	85,879
Waterloo	462	7,448	3,177	196,526	104,091	0	2,112	913	107,116	138,295	441,937
Western	964	7,847	5,492	253,215	111,935	1,508	4,503	2,404	120,350	151,194	524,759
WLU	293	4,748	2,544	58,412	39,431	0	3,712	0	43,143	39,885	141,441
Windsor	295	6,003	1,263	109,929	24,516	0	355	0	24,871	57,065	191,865
York (Keele)	0	9,681	4,061	160,431	85,292	0	8,522	0	93,814	165,410	439,655
York (Glen)	0	1,139	600	15,586	7,580	565	0	0	8,145	12,496	36,227
TOTAL	8,132	101,998	59,687	2,613,554	964,840	10,324	157,215	80,440	1,212,818	1,714,576	5,540,949

Table 2A

Percent Distribution of Actual Inventory by Major Formula Space Category and Institution, 2001-02

	Classroom Facilities (1)	Lab Undergrd (2)	Lab Grad & Faculty (3)	Acad Office & Related (4)	Campus Study Spce & Lib Facilities (5)	Recreatn/ Athletic Space (6)	Food Service (7)	Bookstore & Merch Facilities (8)	Plant Mainten-ance (9)	Admin Office & Related (10)	AV / TV Facilities (11)	Central Services (12)	Health Service Facilties (13)	Student Activity Space (14)	Assembly & Exhibitn Facilities (15)	Formula Areas (1 to 15)
Brock	13%	12%	11%	16%	10%	12%	6%	2%	2%	8%	0%	1%	0%	2%	5%	100%
Carleton	10%	14%	10%	23%	13%	8%	5%	2%	1%	7%	1%	1%	0%	3%	2%	100%
Guelph	7%	13%	24%	18%	7%	10%	4%	1%	3%	9%	0%	1%	0%	2%	2%	100%
Lakehead	11%	21%	8%	12%	12%	8%	5%	1%	2%	7%	1%	2%	0%	5%	2%	100%
Laurentian	10%	12%	8%	16%	15%	10%	5%	2%	3%	8%	1%	1%	0%	5%	4%	100%
Laurentian (Algo)	7%	6%	0%	8%	21%	34%	2%	1%	3%	10%	0%	4%	0%	3%	2%	100%
Laurentian (Hear)	16%	14%	0%	10%	10%	14%	7%	1%	5%	6%	2%	0%	0%	10%	6%	100%
McMaster	8%	10%	22%	20%	14%	5%	3%	1%	3%	6%	0%	2%	0%	3%	2%	100%
Nipissing	18%	19%	1%	9%	13%	16%	7%	0%	0%	8%	1%	2%	0%	6%	0%	100%
OCAD	17%	50%	0%	6%	7%	0%	0%	5%	1%	8%	1%	0%	0%	2%	2%	100%
Ottawa	11%	10%	13%	25%	12%	7%	2%	1%	0%	9%	0%	1%	0%	5%	2%	100%
Queen's	8%	11%	17%	21%	16%	7%	4%	1%	1%	6%	0%	1%	1%	3%	3%	100%
Ryerson	13%	30%	4%	13%	8%	6%	4%	1%	2%	9%	1%	1%	0%	5%	2%	100%
Toronto (St Grge)	9%	10%	17%	23%	18%	5%	3%	1%	2%	5%	0%	1%	0%	4%	3%	100%
Toronto (Miss)	13%	15%	15%	14%	12%	6%	7%	1%	2%	5%	0%	2%	0%	4%	2%	100%
Toronto (Scar)	12%	14%	12%	13%	12%	12%	5%	1%	3%	6%	0%	3%	0%	4%	2%	100%
Trent	13%	9%	8%	15%	20%	8%	8%	0%	1%	11%	0%	1%	0%	7%	0%	100%
Waterloo	9%	13%	17%	19%	9%	6%	5%	2%	3%	7%	0%	3%	0%	4%	2%	100%
Western	12%	12%	13%	19%	13%	6%	4%	2%	2%	9%	0%	2%	0%	3%	2%	100%
WLU	12%	8%	4%	16%	14%	11%	4%	1%	2%	13%	1%	1%	1%	8%	4%	100%
Windsor	9%	14%	11%	17%	15%	9%	4%	2%	2%	7%	2%	1%	0%	5%	1%	100%
York (Keele)	12%	9%	8%	24%	12%	5%	5%	3%	2%	10%	1%	1%	0%	5%	2%	100%
York (Glen)	15%	3%	1%	21%	12%	18%	7%	2%	2%	7%	0%	1%	0%	7%	4%	100%
TOTAL	10%	12%	14%	20%	13%	7%	4%	1%	2%	8%	0%	1%	0%	4%	2%	100%

Table 2B

Percent Distribution of Actual Inventory by Major Space Category and Institution, 2001-02

	Formula (1 to 15)	*Non-Formula* Residential Space (17)	Animal Space (18)	Other (19)	Hlth Sci Clin Facil (20)	*Non-Formula* (17 to 20)	*Non-Assignable* (16)	*Total* (1 to 20)
Brock	42%	22%	0%	4%	0%	26%	32%	100%
Carleton	48%	16%	0%	5%	0%	20%	32%	100%
Guelph	42%	25%	1%	2%	2%	29%	29%	100%
Lakehead	45%	24%	0%	3%	0%	27%	27%	100%
Laurentian	50%	18%	0%	1%	0%	19%	30%	100%
Laurentian (Algo)	76%	15%	0%	0%	0%	15%	9%	100%
Laurentian (Hear)	54%	5%	0%	17%	0%	22%	24%	100%
McMaster	47%	12%	0%	0%	15%	28%	25%	100%
Nipissing	35%	49%	0%	0%	0%	49%	16%	100%
OCAD	67%	0%	0%	0%	0%	0%	33%	100%
Ottawa	46%	14%	0%	2%	0%	16%	38%	100%
Queen's	48%	18%	0%	1%	0%	19%	33%	100%
Ryerson	62%	11%	0%	14%	0%	25%	13%	100%
Toronto (St.Grge)	50%	9%	0%	6%	1%	17%	33%	100%
Toronto (Miss)	42%	24%	0%	1%	0%	25%	33%	100%
Toronto (Scar)	49%	16%	0%	1%	0%	17%	34%	100%
Trent	44%	19%	0%	5%	0%	25%	31%	100%
Waterloo	44%	24%	0%	0%	0%	24%	31%	100%
Western	48%	21%	0%	1%	0%	23%	29%	100%
WLU	41%	28%	0%	3%	0%	31%	28%	100%
Windsor	57%	13%	0%	0%	0%	13%	30%	100%
York (Keele)	41%	19%	0%	2%	0%	21%	38%	100%
York (Glen)	43%	21%	2%	0%	0%	22%	34%	100%
TOTAL	47%	17%	0%	3%	1%	22%	31%	100%

Table 3

Age Profile of Ontario University Space
(as of 1 November, 2001) *

Institution	0-9 Years (NASM)	10-19 Years (NASM)	20-29 Years (NASM)	30-39 Years (NASM)	40-49 Years (NASM)	50+ Years (NASM)	Total (NASM)	Weighted Average Age
Brock	3,548	8,356	20,230	28,292	440	15	60,880.90	27.8
Carleton	12,775	18,712	15,066	67,793	7,257	0	121,601.80	28.7
Guelph	6,912	19,194	28,767	62,649	33,802	38,604	189,928.53	41.0
Lakehead	674	4,787	3,989	34,673	10,011	228	54,362.10	32.9
Laurentian	774	9,968	2,453	47,175	103	1,293	61,766.71	31.7
Laurentian (Algo)	3,711	2,503	0	1,147	0	3,109	10,469.04	32.9
Laurentian (Hear)	0	0	0	0	3,828	0	3,828.29	34.2
McMaster	14,893	3,202	47,720	73,004	32,464	11,318	182,602.20	33.1
Nipissing	4,176	549	10,475	0	0	0	15,200.00	21.4
OCAD	739	0	3,399	0	4,271	1,074	9,482.06	26.5
Ottawa	17,266	9,019	71,524	24,313	35,756	23,825	181,703.50	35.9
Queen's	35,413	16,989	42,397	89,564	13,747	12,695	210,804.16	28.6
Ryerson	1,147	20,741	19,913	26,608	29,794	7,083	105,286.80	32.5
Toronto (St. Grge)	24,369	55,918	83,700	139,133	76,203	91,422	470,745.06	39.0
Toronto (Miss)	3,750	0	0	35,605	0	0	39,355.13	28.0
Toronto (Scar)	487	328	11,996	19,985	0	0	32,796.66	29.5
Trent	3,525	4,121	8,583	18,703	0	1,388	36,319.00	27.8
Waterloo	594	32,856	30,487	101,960	29,084	738	195,719.12	30.7
Western	27,410	20,346	16,150	138,174	25,461	25,675	253,216.00	32.3
WLU	14,715	10,142	14,393	17,553	1,567	0	58,370.40	20.6
Windsor	7,463	8,288	15,685	45,075	24,845	8,266	109,622.51	31.4
York (Keele)	6,308	32,495	20,043	121,586	0	0	180,432.00	27.7
York (Glen)	616	268	0	5,739	7,533	1,427	15,583.00	40.7
TOTAL	191,264	278,783	466,969	1,098,731	336,167	228,160	2,600,075	33.0

* Categories 1-15 only, excluding Rentals.

This table shows that the average age of Ontano university buildings is 33 years, the age when it is generally recognized that major building components need to be renewed. The guidelines for reporting of building age in the COU space survey specify that major renovations which substantially renew a building should be reflected in the age reported, but there are some concerns that adjustments are not always done consistently.

Table 4
Institutional Space Requirements As Measured By COU Space Standards, 2001-02

SYSTEM SUMMARY

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	*1998-99 % I / G*
CLASSROOMS						
Total FTE Students	268,281.2	1.23	329,985.8	265,014.6	80.3	*90.0*
CLASS LABS						
Lab Contact Hours W	83,858.1	0.8	67,086.5	49,479.8		
Lab Contact Hours X	404,742.5	0.6	242,845.5	202,129.2		
Lab Contact Hours Y	122,905.9	0.5	61,453.0	39,138.6		
Lab Contact Hours Z	122,708.5	0.3	36,812.6	29,490.7		
Unclassified				3,148.0		
Total Class Lab	734,215.0		408,197.5	323,386.2	79.2	*87.3*
RESEARCH						
Research Disciplines A	5,895.2	45.0	265,283.6	226,214.4		
Research Disciplines B	3,608.2	30.0	108,244.5	84,614.5		
Research Disciplines C	1,965.6	20.0	39,311.0	22,593.0		
Research Disciplines D	2,614.2	10.0	26,142.5	20,245.2		
Research Disciplines E	15,847.4	1.0	15,847.4	8,795.9		
Unclassified				4,958.9		
Total Research	29,930.6		454,829.1	367,422.0	80.8	*84.4*
OFFICE - ACADEMIC						
Total FTE Faculty	13,388.1	13.0	174,044.7	246,421.2	106.8	*124.3*
Faculty Supplement *	4,361.2	13.0	56,696.2			
Total FTE Grads	30,626.8	4.0	122,507.2	73,046.6	59.6	*59.4*
Total FTE Non-Acd Staff	8,557.7	13.0	111,249.7	92,121.2	82.8	*97.4*
Office Service	464,497.8	0.3	139,349.3	108,301.2	77.7	*87.0*
Total Academic Office			603,847.1	519,890.1	86.1	*96.8*
OFFICE - ADMINISTRATIVE						
Total FTE Non-Acd Staff	9,397.5	13.0	122,167.2	130,033.6	106.4	*112.8*
Office Service	122,167.2	0.3	36,650.2	66,689.8	182.0	*209.4*
Total Admin. Office			158,817.4	196,723.3	123.9	*135.1*
Total Office			762,664.5	716,613.4	94.0	*105.4*
CAMPUS STUDY SPACE & LIBRARY FACILITIES						
FTE UG - Excl. Prof.	222,094.5	0.5	111,047.3			
FTE UG - Professional	15,559.5	1.0	15,559.5			
FTE Grads	30,626.8	0.7	21,438.8			
Study	268,280.8		148,045.5	85,046.8		
Student Computer Rooms	237,654.4	0.08	19,012.3	16,756.6		
Total Study and Student Computer Rooms			167,057.9	101,803.5	60.9	*67.5*
10% of Total Eq. Volumes	n/a		n/a	n/a		
Next 300,000	n/a		n/a	n/a		
Next 300,000	n/a		n/a	n/a		
Remainder	n/a		n/a	n/a		
Total Stack	50,378,460.8		264,480.8	168,599.3	63.7	*67.6*
Library Support	412,526.3	0.3	103,131.6	72,960.5	70.7	*78.2*
Total Campus Study Space & Library Facilities			534,670.2	343,363.2	64.2	*69.7*
PHYSICAL EDUCATION/ATHLETICS						
Under 4,000 FTE Enrol.	n/a		n/a	n/a		
4,000-8,000 Enrol.	n/a		n/a	n/a		
Total FTE Students	268,281.2	0.9				
Total P.E./Athletics			256,453.1	186,153.4	72.6	*75.4*
MAINTENANCE SHOPS						
Total NASM Inv. (exc. 16.0)	3,826,372.9	0.0	57,395.6	51,640.5	90.0	*97.3*
STUDENT AND CENTRAL SERVICES						
Total FTE Students	268,281.2	2.0	536,562.3	359,963.6	67.1	*77.5*
TOTAL FORMULA AREAS			3,340,758.1	2,613,557.0	78.2	*86.0*

* Includes Other Research Appointments

Table 5
Institutional Space Requirements As Measured By COU Space Standards, 2001-02

BROCK

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*1998-99 % I / G*
CLASSROOMS							
Total FTE Students	9,453.90	1.23	11,628.30	7,763.50	66.8	80.3	*64.0*
CLASS LABS							
Lab Contact Hours W	0.00	0.6	0.00	0.00			
Lab Contact Hours X	12,122.00	0.6	7,273.20	4,196.75			
Lab Contact Hours Y	9,686.00	0.5	4,843.00	2,026.80			
Lab Contact Hours Z	6,228.00	0.3	1,868.40	691.10			
Unclassified				607.80			
Total Class Lab			13,984.60	7,522.45	53.8	79.2	*66.0*
RESEARCH							
Research Disciplines A	74.59	45.0	3,356.55	3,378.05			
Research Disciplines B	43.46	30.0	1,303.80	705.70			
Research Disciplines C	9.20	20.0	184.00	98.30			
Research Disciplines D	53.38	10.0	533.80	55.30			
Research Disciplines E	444.12	1.0	444.12	797.40			
Unclassifed				1,408.50			
Total Research			5,822.27	6,443.25	110.7	80.8	*83.1*
OFFICE - ACADEMIC							
Total FTE Faculty	438.25	13.0	5,697.25	5,425.10	78.3	106.8	*67.9*
Faculty Supplement *	94.74	13.0	1,231.59				
Total FTE Grads	344.00	4.0	1,376.00	655.20	47.6	59.6	*53.8*
Total FTE Non-Acd Staff	178.41	13.0	2,319.33	1,125.80	48.5	82.8	*89.1*
Office Service	10,624.17	0.3	3,187.25	2,573.20	80.7	77.7	*64.2*
Total Academic Office			13,811.42	9,779.30	70.8	86.1	*68.2*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	236.70	13.0	3,077.10	3758.8	122.2	106.4	*96.6*
Office Service	3,077.10	0.3	923.13	1287.1	139.4	182.0	*115.1*
Total Admin. Office			4,000.23	5,045.90	126.1	123.9	*100.9*
Total Office			17,811.65	14,825.20	83.2	94.0	*77.5*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
FTE UG - Excl. Prof.	8,158.20	0.5	4,079.10				
FTE UG - Professional	951.70	1.0	951.70				
FTE Grads	344.00	0.7	240.80				
Study	9,453.90		5,271.60	1,094.90			
Student Computer Rooms	9,109.90	0.08	728.79	73.10			
Total Study and Student Computer Rooms			6,000.39	1,168.00	19.5	60.9	*49.0*
10% of Total Eq. Volumes	104,105.25	0.004	416.42				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	336,947.29	0.005	1,684.74				
Total Stack	1,041,052.54		6,001.16	3,639.20	60.6	63.7	*65.6*
Library Support	11,272.76	0.25	2,818.19	1,009.20	35.8	70.7	*40.3*
Total Campus Study Space & Library Facilities			14,819.74	5,816.40	39.2	64.2	*54.9*
PHYSICAL EDUCATION/ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	9,453.90	0.9	8,508.51				
Total P.E./Athletics			8,508.51	7,184.10	84.4	72.6	*84.9*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	98,228.10	0.015	1,473.42	1,493.90	101.4	90.0	*117.5*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	9,453.90	2.0	18,907.80	9,832.10	52.0	67.1	*61.0*
TOTAL FORMULA AREAS			92,956.29	60,880.90	65.5	78.2	*69.3*

* Includes Other Research Appointments

Table 6
Institutional Space Requirements As Measured By COU Space Standards, 2001-02

CARLETON

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*1998-99 % I / G*
CLASSROOMS							
Total FTE Students	14,660.72	1.23	18,032.69	11,947.33	66.3	80.3	*77.4*
CLASS LABS							
Lab Contact Hours W	8,048.00	0.8	6,438.40	4,237.24			
Lab Contact Hours X	17,435.50	0.6	10,461.30	9,217.60			
Lab Contact Hours Y	1,525.00	0.5	762.50	545.77			
Lab Contact Hours Z	3,912.00	0.3	1,173.60	2,591.73			
Unclassified				0.00			
Total Class Lab			18,835.80	16,592.34	88.1	79.2	*100.6*
RESEARCH							
Research Disciplines A	138.55	45.0	6,234.75	5,237.21			
Research Disciplines B	208.15	30.0	6,244.50	3,828.13			
Research Disciplines C	260.15	20.0	5,203.00	2,488.50			
Research Disciplines D	80.25	10.0	802.50	291.26			
Research Disciplines E	1,036.50	1.0	1,036.50	821.48			
Unclassified				0.00			
Total Research			19,521.25	12,666.58	64.9	80.8	*61.4*
OFFICE - ACADEMIC							
Total FTE Faculty	683.35	13.0	8,883.55	12,236.67	109.0	106.8	*135.0*
Faculty Supplement *	180.50	13.0	2,346.53				
Total FTE Grads	2,002.50	4.0	8,010.00	5,076.16	63.4	59.6	*77.2*
Total FTE Non-Acd Staff	236.81	13.0	3,078.53	3,913.85	127.1	82.8	*105.4*
Office Service	22,318.61	0.3	6,695.58	6,449.89	96.3	77.7	*94.9*
Total Academic Office			29,014.20	27,676.57	95.4	86.1	*105.1*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	430.32	13.0	5,594.16	5,167.17	92.4	106.4	*77.4*
Office Service	5,594.16	0.3	1,678.25	3,779.14	225.2	182.0	*193.2*
Total Admin. Office			7,272.41	8,946.31	123.0	123.9	*104.1*
Total Office			36,286.60	36,622.88	100.9	94.0	*104.9*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
FTE UG - Excl. Prof.	12,658.22	0.5	6,329.11				
FTE UG - Professional	0.00	1.0	0.00				
FTE Grads	2,002.50	0.7	1,401.75				
Study	14,660.72		7,730.86	2,504.05			
Student Computer Rooms	12,658.22	0.08	1,012.66	321.43			
Total Study and Student Computer Rooms			8,743.52	2,825.48	32.3	60.9	*87.0*
10% of Total Eq. Volumes	213,413.75	0.004	853.66				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	1,320,723.79	0.005	6,603.62				
Total Stack	2,134,137.55		11,357.27	6,751.68	59.4	63.7	*44.7*
Library Support	19,088.14	0.25	4,772.03	5,675.19	118.9	70.7	*85.3*
Total Campus Study Space & Library Facilities			24,872.83	15,252.35	61.3	64.2	*65.9*
PHYSICAL EDUCATION/ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	14,660.72	0.9	13,194.65				
Total P.E./Athletics			13,194.65	9,913.73	75.1	72.6	*79.6*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	173,515.09	0.015	2,602.73	1,781.48	68.4	90.0	*76.9*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	14,660.72	2.0	29,321.45	16,825.12	57.4	67.1	*69.9*
TOTAL FORMULA AREAS			162,668.00	121,601.81	74.8	78.2	*81.8*

* Includes Other Research Appointments

Table 7
Institutional Space Requirements As Measured By COU Space Standards, 2001-02

GUELPH

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*1998-99 % I / G*
CLASSROOMS							
Total FTE Students	14,546.12	1.23	17,891.73	12,549.66	70.1	80.3	*77.6*
CLASS LABS							
Lab Contact Hours W	23,834.90	0.8	19,067.92	9,025.63			
Lab Contact Hours X	32,785.00	0.6	19,671.00	11,413.10			
Lab Contact Hours Y	3,476.00	0.5	1,738.00	1,089.38			
Lab Contact Hours Z	11,515.50	0.3	3,454.65	2,190.37			
Unclassified				196.86			
Total Class Lab			43,931.57	23,915.34	54.4	79.2	*60.0*
RESEARCH							
Research Disciplines A	794.48	45.0	35,751.60	39,215.81			
Research Disciplines B	61.13	30.0	1,833.90	1,460.36			
Research Disciplines C	86.77	20.0	1,735.40	1,177.00			
Research Disciplines D	115.03	10.0	1,150.30	2,170.92			
Research Disciplines E	471.20	1.0	471.20	471.30			
Unclassified				463.67			
Total Research			40,942.40	44,959.06	109.8	80.8	*111.7*
OFFICE - ACADEMIC							
Total FTE Faculty	665.01	13.0	8,645.13	15,629.54	139.8	106.8	*119.8*
Faculty Supplement *	194.75	13.0	2,531.77				
Total FTE Grads	1,667.90	4.0	6,671.60	6,941.34	104.0	59.6	*97.0*
Total FTE Non-Acd Staff	298.87	13.0	3,885.31	4,801.19	123.6	82.8	*196.7*
Office Service	21,733.81	0.3	6,520.14	6,258.07	96.0	77.7	*95.9*
Total Academic Office			28,253.95	33,630.14	119.0	86.1	*119.0*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	519.56	13.0	6,754.28	11,089.76	164.2	106.4	*202.7*
Office Service	6,754.28	0.3	2,026.28	6,704.55	330.9	182.0	*401.9*
Total Admin. Office			8,780.56	17,794.31	202.7	123.9	*248.7*
Total Office			37,034.52	51,424.45	138.9	94.0	*151.1*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
FTE UG - Excl. Prof.	12,465.22	0.5	6,232.61				
FTE UG - Professional	413.00	1.0	413.00				
FTE Grads	1,667.90	0.7	1,167.53				
Study	14,546.12		7,813.14	3,778.18			
Student Computer Rooms	12,878.22	0.08	1,030.26	701.42			
Total Study and Student Computer Rooms			8,843.40	4,479.60	50.7	60.9	*57.3*
10% of Total Eq. Volumes	201,388.72	0.004	805.55				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	1,212,498.48	0.005	6,062.49				
Total Stack	2,013,887.20		10,768.05	6,481.87	60.2	63.7	*45.1*
Library Support	18,581.19	0.25	4,645.30	2,296.32	49.4	70.7	*47.0*
Total Campus Study Space & Library Facilities			24,256.74	13,257.79	54.7	64.2	*48.5*
PHYSICAL EDUCATION/ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	14,546.12	0.9	13,091.51				
Total P.E./Athletics			13,091.51	19,370.32	148.0	72.6	*140.3*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	321,663.98	0.015	4,824.96	4,775.73	99.0	90.0	*114.2*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	14,546.12	2.0	29,092.24	20,004.58	68.8	67.1	*85.2*
TOTAL FORMULA AREAS			211,065.66	190,256.93	90.1	78.2	*95.2*

* Includes Other Research Appointments

Table 8
Institutional Space Requirements As Measured By COU Space Standards, 2001-02

LAKEHEAD

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*1998-99 % I / G*
CLASSROOMS							
Total FTE Students	5,353.56	1.23	6,584.88	6,166.00	93.6	80.3	*90.3*
CLASS LABS							
Lab Contact Hours W	1,580.00	0.8	1,264.00	2,632.44			
Lab Contact Hours X	9,409.50	0.6	5,645.70	5,812.20			
Lab Contact Hours Y	3,816.50	0.5	1,908.25	2,829.29			
Lab Contact Hours Z	3,723.00	0.3	1,116.90	406.30			
Unclassified				0.57			
Total Class Lab			9,934.85	11,680.80	117.6	79.2	*89.6*
RESEARCH							
Research Disciplines A	52.11	45.0	2,344.95	1,911.90			
Research Disciplines B	84.93	30.0	2,547.90	1,875.10			
Research Disciplines C	22.96	20.0	459.20	574.27			
Research Disciplines D	25.49	10.0	254.90	29.30			
Research Disciplines E	219.21	1.0	219.21	60.40			
Unclassified				0.00			
Total Research			5,826.16	4,450.97	76.4	80.8	*75.8*
OFFICE - ACADEMIC							
Total FTE Faculty	286.80	13.0	3,728.40	4,186.60	94.8	106.8	*95.5*
Faculty Supplement *	53.02	13.0	689.26				
Total FTE Grads	225.80	4.0	903.20	771.50	85.4	59.6	*80.4*
Total FTE Non-Acd Staff	101.50	13.0	1,319.50	835.80	63.3	82.8	*68.7*
Office Service	6,640.36	0.3	1,992.11	629.80	31.6	77.7	*32.8*
Total Academic Office			8,632.47	6,423.70	74.4	86.1	*75.9*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	360.26	13.0	4,683.38	2,424.00	51.8	106.4	*60.1*
Office Service	4,683.38	0.3	1,405.01	1,425.50	101.5	182.0	*121.0*
Total Admin. Office			6,088.39	3,849.50	63.2	123.9	*74.1*
Total Office			14,720.86	10,273.20	69.8	94.0	*75.2*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
FTE UG - Excl. Prof.	4,698.33	0.5	2,349.16				
FTE UG - Professional	429.44	1.0	429.44				
FTE Grads	225.80	0.7	158.06				
Study	5,353.56		2,936.66	2,130.60			
Student Computer Rooms	5,127.76	0.08	410.22	162.00			
Total Study and Student Computer Rooms			3,346.88	2,292.60	68.5	60.9	*71.1*
10% of Total Eq. Volumes	94,063.28	0.004	376.25				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	246,569.56	0.005	1,232.85				
Total Stack	940,632.84		5,509.10	3,022.40	54.9	63.7	*60.9*
Library Support	8,445.76	0.25	2,111.44	1,176.00	55.7	70.7	*57.2*
Total Campus Study Space & Library Facilities			10,967.42	6,491.00	59.2	64.2	*63.2*
PHYSICAL EDUCATION/ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	5,353.56		1,000.00				
Total FTE Students	5,353.56	0.9	4,818.21				
Total P.E./Athletics			5,818.21	4,600.80	79.1	72.6	*74.9*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	86,930.50	0.015	1,303.96	1,172.00	89.9	90.0	*90.2*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	5,353.56	2.0	10,707.13	9,528.10	89.0	67.1	*84.5*
TOTAL FORMULA AREAS			65,863.47	54,362.87	82.5	78.2	*79.6*

* Includes Other Research Appointments

Table 9
Institutional Space Requirements As Measured By COU Space Standards, 2001-02

LAURENTIAN

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*1998-99 % I / G*
CLASSROOMS							
Total FTE Students	4,521.20	1.23	5,561.08	6,384.28	114.8	80.3	*113.8*
CLASS LABS							
Lab Contact Hours W	109.50	0.8	87.60	1,299.17			
Lab Contact Hours X	3,995.00	0.6	2,397.00	3,000.80			
Lab Contact Hours Y	7,102.50	0.5	3,551.25	2,355.33			
Lab Contact Hours Z	684.00	0.3	205.20	584.16			
Unclassified				0.00			
Total Class Lab			6,241.05	7,239.46	116.0	79.2	*125.7*
RESEARCH							
Research Disciplines A	107.35	45.0	4,830.75	2,750.36			
Research Disciplines B	31.30	30.0	939.00	1,192.55			
Research Disciplines C	18.40	20.0	368.00	92.68			
Research Disciplines D	36.20	10.0	362.00	163.47			
Research Disciplines E	323.65	1.0	323.65	942.66			
Unclassified				0.00			
Total Research			6,823.40	5,141.72	75.4	80.8	*68.0*
OFFICE - ACADEMIC							
Total FTE Faculty	400.40	13.0	5,205.20	6,354.33	101.9	106.8	*108.7*
Faculty Supplement *	79.06	13.0	1,027.78				
Total FTE Grads	218.60	4.0	874.40	817.08	93.4	59.6	*33.5*
Total FTE Non-Acd Staff	74.00	13.0	962.00	1,173.85	122.0	82.8	*126.3*
Office Service	8,069.38	0.3	2,420.81	1,509.93	62.4	77.7	*85.0*
Total Academic Office			10,490.19	9,855.19	93.9	86.1	*97.0*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	185.00	13.0	2,405.00	3,517.56	146.3	106.4	*128.0*
Office Service	2,405.00	0.3	721.50	1,201.82	166.6	182.0	*165.3*
Total Admin. Office			3,126.50	4,719.38	150.9	123.9	*136.6*
Total Office			13,616.69	14,574.57	107.0	94.0	*107.3*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
FTE UG - Excl. Prof.	4,139.92	0.5	2,069.96				
FTE UG - Professional	162.68	1.0	162.68				
FTE Grads	218.60	0.7	153.02				
Study	4,521.20		2,385.66	3,386.76			
Student Computer Rooms	4,302.60	0.08	344.21	388.49			
Total Study and Student Computer Rooms			2,729.87	3,775.25	138.3	60.9	*138.1*
10% of Total Eq. Volumes	133,525.63	0.004	534.10				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	601,730.70	0.005	3,008.65				
Total Stack	1,335,256.33		7,442.76	4,582.25	61.6	63.7	*74.0*
Library Support	9,828.42	0.25	2,457.10	1,147.92	46.7	70.7	*56.3*
Total Campus Study Space & Library Facilities			12,629.73	9,505.42	75.3	64.2	*84.8*
PHYSICAL EDUCATION/ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	4,521.20		1,000.00				
Total FTE Students	4,521.20	0.9	4,069.08				
Total P.E./Athletics			5,069.08	6,352.04	125.3	72.6	*120.1*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	85,394.57	0.015	1,280.92	1,671.82	130.5	90.0	*164.0*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	4,521.20	2.0	9,042.40	10,994.92	121.6	67.1	*130.0*
TOTAL FORMULA AREAS			60,264.35	61,864.23	102.7	78.2	*106.4*

* Includes Other Research Appointments

Table 10
Institutional Space Requirements As Measured By COU Space Standards, 2001-02

ALGOMA

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*1998-99 % I / G*
CLASSROOMS							
Total FTE Students	674.30	1.23	829.39	779.72	94.0	80.3	*183.0*
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	795.00	0.6	477.00	308.30			
Lab Contact Hours Y	225.00	0.5	112.50	165.60			
Lab Contact Hours Z	1,024.00	0.3	307.20	212.60			
Unclassified				5.81			
Total Class Lab			896.70	692.31	77.2	79.2	*179.5*
RESEARCH							
Research Disciplines A	2.60	45.0	117.00	0.00			
Research Disciplines B	0.00	30.0	0.00	0.00			
Research Disciplines C	0.50	20.0	10.00	0.00			
Research Disciplines D	6.00	10.0	60.00	0.00			
Research Disciplines E	11.20	1.0	11.20	0.00			
Unclassified				0.00			
Total Research			198.20	0.00	n/a	80.8	*n/a*
OFFICE - ACADEMIC							
Total FTE Faculty	20.30	13.0	263.90	706.62	232.8	106.8	*43.3*
Faculty Supplement *	3.05	13.0	39.59				
Total FTE Grads	0.00	4.0	0.00	0.00	n/a	59.6	*n/a*
Total FTE Non-Acd Staff	5.00	13.0	65.00	48.17	74.1	82.8	*17.9*
Office Service	368.49	0.3	110.55	58.43	52.9	77.7	*17.1*
Total Academic Office			479.03	813.22	169.8	86.1	*32.8*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	45.00	13.0	585.00	1,001.24	171.2	106.4	*117.7*
Office Service	585.00	0.3	175.50	68.23	38.9	182.0	*113.1*
Total Admin. Office			760.50	1,069.47	140.6	123.9	*116.6*
Total Office			1,239.53	1,882.69	151.9	94.0	*51.9*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
FTE UG - Excl. Prof.	674.30	0.5	337.15				
FTE UG - Professional	0.00	1.0	0.00				
FTE Grads	0.00	0.7	0.00				
Study	674.30		337.15	325.46			
Student Computer Rooms	674.30	0.08	53.94	0.00			
Total Study and Student Computer Rooms			391.09	325.46	83.2	60.9	*171.3*
10% of Total Eq. Volumes	1,518.19	0.004	6.07				
Next 300,000	150,301.20	0.007	1,052.11				
Next 300,000	0.00	0.006	0.00				
Remainder	0.00	0.005	0.00				
Total Stack	151,819.40		1,058.18	1,313.74	124.2	63.7	*146.5*
Library Support	1,395.33	0.25	348.83	593.76	170.2	70.7	*221.8*
Total Campus Study Space & Library Facilities			1,798.11	2,232.96	124.2	64.2	*165.0*
PHYSICAL EDUCATION/ATHLETICS							
Under 4,000 FTE Enrol.	674.30		2,000.00				
4,000-8,000 Enrol.	0.00						
Total FTE Students	674.30	0.9	606.87				
Total P.E./Athletics			2,606.87	3,644.09	139.8	72.6	*140.1*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	12,883.23	0.015	193.25	345.50	178.8	90.0	*135.4*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	674.30	2.0	1,348.60	1,234.36	91.5	67.1	*153.3*
TOTAL FORMULA AREAS			9,110.65	10,811.63	118.7	78.2	*123.2*

* Includes Other Research Appointments

Table 11
Institutional Space Requirements As Measured By COU Space Standards, 2001-02

HEARST

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*1998-99 % I / G*
CLASSROOMS							
Total FTE Students	105.60	1.23	129.89	609.00	468.9	80.3	*525.2*
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	0.00	0.6	0.00	0.00			
Lab Contact Hours Y	348.00	0.5	174.00	174.00			
Lab Contact Hours Z	1,233.00	0.3	369.90	369.90			
Unclassified				0.00			
Total Class Lab			543.90	543.90	100.0	79.2	*113.1*
RESEARCH							
Research Disciplines A	0.00	45.0	0.00	0.00			
Research Disciplines B	3.50	30.0	105.00	0.00			
Research Disciplines C	0.00	20.0	0.00	0.00			
Research Disciplines D	1.00	10.0	10.00	0.00			
Research Disciplines E	18.50	1.0	18.50	0.00			
Unclassified				0.00			
Total Research			133.50	0.00	n/a	80.8	*n/a*
OFFICE - ACADEMIC							
Total FTE Faculty	23.00	13.0	299.00	317.31	92.3	106.8	*71.1*
Faculty Supplement *	3.46	13.0	44.85				
Total FTE Grads	0.00	4.0	0.00	0.00	n/a	59.6	*n/a*
Total FTE Non-Acd Staff	0.00	13.0	0.00	0.00	n/a	82.8	*n/a*
Office Service	343.86	0.3	103.16	56.80	55.1	77.7	*42.8*
Total Academic Office			447.01	374.11	83.7	86.1	*46.9*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	13.00	13.0	169.00	130.27	77.1	106.4	*205.4*
Office Service	169.00	0.3	50.70	87.53	172.6	182.0	*320.6*
Total Admin. Office			219.70	217.80	99.1	123.9	*232.0*
Total Office			666.71	591.91	88.8	94.0	*78.5*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
FTE UG - Excl. Prof.	105.60	0.5	52.80				
FTE UG - Professional	0.00	1.0	0.00				
FTE Grads	0.00	0.7	0.00				
Study	105.60		52.80	46.36			
Student Computer Rooms	105.60	0.08	8.45	42.00			
Total Study and Student Computer Rooms			61.25	88.36	144.3	60.9	*79.3*
10% of Total Eq. Volumes	11,635.69	0.004	46.54				
Next 300,000	104,721.19	0.007	733.05				
Next 300,000	0.00	0.006	0.00				
Remainder	0.00	0.005	0.00				
Total Stack	116,356.88		779.59	245.75	31.5	63.7	*87.4*
Library Support	832.39	0.25	208.10	59.14	28.4	70.7	*79.8*
Total Campus Study Space & Library Facilities			1,048.94	393.25	37.5	64.2	*85.1*
PHYSICAL EDUCATION/ATHLETICS							
Under 4,000 FTE Enrol.	105.60		2,000.00				
4,000-8,000 Enrol.	0.00						
Total FTE Students	105.60	0.9	95.04				
Total P.E./Athletics			2,095.04	552.72	26.4	72.6	*33.9*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	5,357.04	0.015	80.36	191.17	237.9	90.0	*667.4*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	105.60	2.0	211.20	946.34	448.1	67.1	*452.9*
TOTAL FORMULA AREAS			4,909.53	3,828.29	78.0	78.2	*102.7*

* Includes Other Research Appointments

Table 12
Institutional Space Requirements As Measured By COU Space Standards, 2001-02

McMASTER

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*1998-99 % I / G*
CLASSROOMS							
Total FTE Students	15,817.70	1.23	19,455.77	15,418.20	79.2	80.3	*83.2*
CLASS LABS							
Lab Contact Hours W	5,820.50	0.8	4,656.40	2,553.22			
Lab Contact Hours X	24,346.50	0.6	14,607.90	13,185.45			
Lab Contact Hours Y	2,922.00	0.5	1,461.00	1,303.29			
Lab Contact Hours Z	11,747.00	0.3	3,524.10	1,371.29			
Unclassified				0.00			
Total Class Lab			24,249.40	18,413.25	75.9	79.2	*86.2*
RESEARCH							
Research Disciplines A	620.95	45.0	27,942.75	23,809.68			
Research Disciplines B	267.80	30.0	8,034.00	12,098.40			
Research Disciplines C	129.85	20.0	2,597.00	2,186.25			
Research Disciplines D	259.40	10.0	2,594.00	1,008.39			
Research Disciplines E	792.65	1.0	792.65	236.25			
Unclassified				0.00			
Total Research			41,960.40	39,338.97	93.8	80.8	*100.6*
OFFICE - ACADEMIC							
Total FTE Faculty	922.70	13.0	11,995.10	15,266.80	89.5	106.8	*110.5*
Faculty Supplement *	389.41	13.0	5,062.27				
Total FTE Grads	2,044.90	4.0	8,179.60	5,384.20	65.8	59.6	*70.4*
Total FTE Non-Acd Staff	756.28	13.0	9,831.64	8,105.10	82.4	82.8	*104.2*
Office Service	35,068.61	0.3	10,520.58	8,331.90	79.2	77.7	*60.3*
Total Academic Office			45,589.19	37,088.00	81.4	86.1	*89.6*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	582.92	13.0	7,577.96	9,030.10	119.2	106.4	*116.1*
Office Service	7,577.96	0.3	2,273.39	2,590.20	113.9	182.0	*122.2*
Total Admin. Office			9,851.35	11,620.30	118.0	123.9	*117.5*
Total Office			55,440.53	48,708.30	87.9	94.0	*96.6*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
FTE UG - Excl. Prof.	13,100.30	0.5	6,550.15				
FTE UG - Professional	672.30	1.0	672.30				
FTE Grads	2,044.90	0.7	1,431.43				
Study	15,817.50		8,653.88	4,363.20			
Student Computer Rooms	13,772.80	0.08	1,101.82	1,131.80			
Total Study and Student Computer Rooms			9,755.70	5,495.00	56.3	60.9	*55.4*
10% of Total Eq. Volumes	288,251.12	0.004	1,153.00				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	1,994,260.10	0.005	9,971.30				
Total Stack	2,882,511.22		15,024.30	14,095.50	93.8	63.7	*100.6*
Library Support	23,678.18	0.25	5,919.55	6,046.30	102.1	70.7	*104.9*
Total Campus Study Space & Library Facilities			30,699.56	25,636.80	83.5	64.2	*88.7*
PHYSICAL EDUCATION/ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	15,817.70	0.9	14,235.93				
Total P.E./Athletics			14,235.93	9,303.40	65.4	72.6	*64.1*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	290,627.70	0.015	4,359.42	4,689.90	107.6	90.0	*113.2*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	15,817.70	2.0	31,635.40	21,093.40	66.7	67.1	*78.4*
TOTAL FORMULA AREAS			222,036.41	182,602.22	82.2	78.2	*89.3*

* Includes Other Research Appointments

Table 13
Institutional Space Requirements As Measured By COU Space Standards, 2001-02

NIPISSING

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*1998-99 % I / G*
CLASSROOMS							
Total FTE Students	2,525.98	1.23	3,106.96	2,799.00	90.1	80.3	*80.5*
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	1,207.00	0.6	724.20	467.00			
Lab Contact Hours Y	16,595.00	0.5	8,297.50	2,293.00			
Lab Contact Hours Z	856.00	0.3	256.80	157.00			
Unclassified				0.00			
Total Class Lab			9,278.50	2,917.00	31.4	79.2	*27.4*
RESEARCH							
Research Disciplines A	9.00	45.0	405.00	0.00			
Research Disciplines B	8.00	30.0	240.00	0.00			
Research Disciplines C	6.00	20.0	120.00	56.00			
Research Disciplines D	9.00	10.0	90.00	40.00			
Research Disciplines E	110.15	1.0	110.15	70.00			
Unclassified				0.00			
Total Research			965.15	166.00	17.2	80.8	*22.9*
OFFICE - ACADEMIC							
Total FTE Faculty	116.50	13.0	1,514.50	1,257.00	72.2	106.8	*65.7*
Faculty Supplement *	17.48	13.0	227.18				
Total FTE Grads	51.30	4.0	205.20	0.00	n/a	59.6	*n/a*
Total FTE Non-Acd Staff	41.00	13.0	533.00	169.00	31.7	82.8	*67.9*
Office Service	2,479.88	0.3	743.96	9.00	1.2	77.7	*29.8*
Total Academic Office			3,223.84	1,435.00	44.5	86.1	*52.5*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	65.00	13.0	845.00	997.00	118.0	106.4	*137.7*
Office Service	845.00	0.3	253.50	257.00	101.4	182.0	*42.2*
Total Admin. Office			1,098.50	1,254.00	114.2	123.9	*115.7*
Total Office			4,322.34	2,689.00	62.2	94.0	*71.7*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
FTE UG - Excl. Prof.	1,782.66	0.5	891.33				
FTE UG - Professional	692.02	1.0	692.02				
FTE Grads	51.30	0.7	35.91				
Study	2,525.98		1,619.26	210.00			
Student Computer Rooms	2,474.68	0.08	197.97	0.00			
Total Study and Student Computer Rooms			1,817.23	210.00	11.6	60.9	*n/a*
10% of Total Eq. Volumes	21,637.79	0.004	86.55				
Next 300,000	194,740.09	0.007	1,363.18				
Next 300,000	0.00	0.006	0.00				
Remainder	0.00	0.005	0.00				
Total Stack	216,377.88		1,449.73	1,339.00	92.4	63.7	*99.9*
Library Support	3,068.99	0.25	767.25	470.00	61.3	70.7	*63.7*
Total Campus Study Space & Library Facilities			4,034.21	2,019.00	50.0	64.2	*53.0*
PHYSICAL EDUCATION/ATHLETICS							
Under 4,000 FTE Enrol.	2,525.98		2,000.00				
4,000-8,000 Enrol.	0.00						
Total FTE Students	2,525.98	0.9	2,273.38				
Total P.E./Athletics			4,273.38	2,549.00	59.6	72.6	*17.9*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	37,680.00	0.015	565.20	0.00	n/a	90.0	*n/a*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	2,525.98	2.0	5,051.96	2,443.00	48.4	67.1	*53.1*
TOTAL FORMULA AREAS			31,597.70	15,582.00	49.3	78.2	*43.1*

* Includes Other Research Appointments

Table 14
Institutional Space Requirements As Measured By COU Space Standards, 2001-02

ONTARIO COLLEGE OF ART & DESIGN

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*1998-99 % I / G*
CLASSROOMS							
Total FTE Students	2,049.20	1.23	2,520.52	2,143.32	85.0	80.3	*80.5*
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	22,386.00	0.6	13,431.60	6,376.07			
Lab Contact Hours Y	0.00	0.5	0.00	0.00			
Lab Contact Hours Z	0.00	0.3	0.00	0.00			
Unclassified				0.00			
Total Class Lab			13,431.60	6,376.07	47.5	79.2	*40.4*
RESEARCH							
Research Disciplines A	0.00	45.0	0.00	0.00			
Research Disciplines B	0.00	30.0	0.00	0.00			
Research Disciplines C	0.00	20.0	0.00	0.00			
Research Disciplines D	37.68	10.0	376.80	0.00			
Research Disciplines E	34.08	1.0	34.08	0.00			
Unclassified				0.00			
Total Research			410.88	0.00	n/a	80.8	*n/a*
OFFICE - ACADEMIC							
Total FTE Faculty	71.76	13.0	932.88	508.80	47.4	106.8	*42.9*
Faculty Supplement *	10.76	13.0	139.93				
Total FTE Grads	0.00	4.0	0.00	0.00	n/a	59.6	*n/a*
Total FTE Non-Acd Staff	9.00	13.0	117.00	191.64	163.8	82.8	*159.5*
Office Service	1,189.81	0.3	356.94	23.38	6.6	77.7	*3.9*
Total Academic Office			1,546.76	723.82	46.8	86.1	*43.6*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	74.20	13.0	964.60	627.71	65.1	106.4	*60.6*
Office Service	964.60	0.3	289.38	441.59	152.6	182.0	*164.1*
Total Admin. Office			1,253.98	1,069.30	85.3	123.9	*84.5*
Total Office			2,800.74	1,793.12	64.0	94.0	*61.7*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
FTE UG - Excl. Prof.	2,049.20	0.5	1,024.60				
FTE UG - Professional	0.00	1.0	0.00				
FTE Grads	0.00	0.7	0.00				
Study	2,049.20		1,024.60	173.96			
Student Computer Rooms	2,049.20	0.08	163.94	10.37			
Total Study and Student Computer Rooms			1,188.54	184.33	15.5	60.9	*7.2*
10% of Total Eq. Volumes	11,614.61	0.004	46.46				
Next 300,000	104,531.51	0.007	731.72				
Next 300,000	(0.00)	0.006	(0.00)				
Remainder	0.00	0.005	0.00				
Total Stack	116,146.12		778.18	468.11	60.2	63.7	*75.7*
Library Support	1,802.78	0.25	450.69	268.65	59.6	70.7	*25.0*
Total Campus Study Space & Library Facilities			2,417.41	921.09	38.1	64.2	*28.8*
PHYSICAL EDUCATION/ATHLETICS							
Under 4,000 FTE Enrol.	2,049.20		2,000.00				
4,000-8,000 Enrol.	0.00						
Total FTE Students	2,049.20	0.9	1,844.28				
Total P.E./Athletics			3,844.28	0.00	n/a	72.6	*n/a*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	12,787.49	0.015	191.81	85.65	44.7	90.0	*56.2*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	2,049.20	2.0	4,098.40	1,393.73	34.0	67.1	*33.2*
TOTAL FORMULA AREAS			29,715.63	12,712.98	42.8	78.2	*37.9*

* Includes Other Research Appointments

Table 15
Institutional Space Requirements As Measured By COU Space Standards, 2001-02

OTTAWA

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*1998-99 % I / G*
CLASSROOMS							
Total FTE Students	21,037.00	1.23	25,875.51	20,547.40	79.4	80.3	*87.9*
CLASS LABS							
Lab Contact Hours W	4,243.00	0.8	3,394.40	3,618.39			
Lab Contact Hours X	23,810.50	0.6	14,286.30	10,144.73			
Lab Contact Hours Y	8,347.30	0.5	4,173.65	2,035.72			
Lab Contact Hours Z	6,678.50	0.3	2,003.55	1,731.83			
Unclassified				0.00			
Total Class Lab			23,857.90	17,530.68	73.5	79.2	*90.0*
RESEARCH							
Research Disciplines A	422.95	45.0	19,032.75	15,721.23			
Research Disciplines B	168.10	30.0	5,043.00	3,459.25			
Research Disciplines C	316.75	20.0	6,335.00	2,271.46			
Research Disciplines D	84.90	10.0	849.00	1,996.18			
Research Disciplines E	1,505.55	1.0	1,505.55	1,166.79			
Unclassified				23.64			
Total Research			32,765.30	24,638.54	75.2	80.8	*76.1*
OFFICE - ACADEMIC							
Total FTE Faculty	1,061.40	13.0	13,798.20	20,239.91	116.2	106.8	*117.5*
Faculty Supplement *	277.91	13.0	3,612.83				
Total FTE Grads	2,883.00	4.0	11,532.00	4,279.98	37.1	59.6	*42.8*
Total FTE Non-Acd Staff	492.20	13.0	6,398.60	11,912.06	186.2	82.8	*142.8*
Office Service	35,341.63	0.3	10,602.49	9,659.16	91.1	77.7	*89.6*
Total Academic Office			45,944.12	46,091.11	100.3	88.1	*94.6*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	799.50	13.0	10,393.50	11,940.67	114.9	108.4	*152.4*
Office Service	10,393.50	0.3	3,118.05	5,191.75	166.5	182.0	*299.6*
Total Admin. Office			13,511.55	17,132.42	126.8	123.9	*186.4*
Total Office			59,455.67	63,223.53	106.3	94.0	*115.2*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
FTE UG - Excl. Prof.	14,924.00	0.5	7,462.00				
FTE UG - Professional	3,230.00	1.0	3,230.00				
FTE Grads	2,883.00	0.7	2,018.10				
Study	21,037.00		12,710.10	2,640.52			
Student Computer Rooms	18,154.00	0.08	1,452.32	624.59			
Total Study and Student Computer Rooms			14,162.42	3,265.11	23.1	60.9	*23.3*
10% of Total Eq. Volumes	332,838.98	0.004	1,331.36				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	2,395,550.80	0.005	11,977.75				
Total Stack	3,328,389.78		17,209.11	14,453.61	84.0	63.7	*82.6*
Library Support	29,919.21	0.25	7,479.80	4,178.63	55.9	70.7	*60.4*
Total Campus Study Space & Library Facilities			38,851.33	21,897.35	56.4	64.2	*59.5*
PHYSICAL EDUCATION/ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	21,037.00	0.9	18,933.30				
Total P.E./Athletics			18,933.30	12,418.94	65.6	72.6	*41.3*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	246,186.58	0.015	3,692.80	893.47	24.2	90.0	*27.5*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	21,037.00	2.0	42,074.00	21,739.82	51.7	67.1	*52.4*
TOTAL FORMULA AREAS			245,505.81	182,889.73	74.5	78.2	*78.1*

* Includes Other Research Appointments

Table 16
Institutional Space Requirements As Measured By COU Space Standards, 2001-02

QUEEN'S

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*1998-99 % I / G*
CLASSROOMS							
Total FTE Students	15,964.36	1.23	19,636.17	16,450.20	83.8	80.3	*106.9*
CLASS LABS							
Lab Contact Hours W	5,399.00	0.8	4,319.20	4,608.90			
Lab Contact Hours X	29,105.00	0.6	17,463.00	14,171.20			
Lab Contact Hours Y	12,204.00	0.5	6,102.00	4,696.40			
Lab Contact Hours Z	118.00	0.3	35.40	590.20			
Unclassified				111.30			
Total Class Lab			27,919.60	24,178.00	86.6	79.2	*107.2*
RESEARCH							
Research Disciplines A	552.12	45.0	24,845.47	21,085.10			
Research Disciplines B	213.33	30.0	6,399.75	6,256.00			
Research Disciplines C	123.16	20.0	2,463.22	3,714.80			
Research Disciplines D	231.27	10.0	2,312.69	3,758.30			
Research Disciplines E	1,087.74	1.0	1,087.74	362.50			
Unclassified				84.20			
Total Research			37,108.87	35,260.90	95.0	80.8	*95.5*
OFFICE - ACADEMIC							
Total FTE Faculty	870.80	13.0	11,320.46	20,941.34	123.0	106.8	*197.3*
Faculty Supplement *	439.15	13.0	5,708.92				
Total FTE Grads	2,368.10	4.0	9,472.40	6,561.70	69.3	59.6	*29.2*
Total FTE Non-Acd Staff	690.66	13.0	8,978.53	7,217.06	80.4	82.8	*122.0*
Office Service	35,480.31	0.3	10,644.09	10,567.65	99.3	77.7	*117.6*
Total Academic Office			46,124.41	45,287.75	98.2	86.1	*123.5*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	619.18	13.0	8,049.34	8,418.90	104.6	106.4	*83.4*
Office Service	8,049.34	0.3	2,414.80	4,178.61	173.0	182.0	*152.5*
Total Admin. Office			10,464.14	12,597.51	120.4	123.9	*99.4*
Total Office			56,588.55	57,885.26	102.3	94.0	*116.3*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
FTE UG - Excl. Prof.	12,746.61	0.5	6,373.31				
FTE UG - Professional	849.65	1.0	849.65				
FTE Grads	2,368.10	0.7	1,657.67				
Study	15,964.36		8,880.63	8,475.80			
Student Computer Rooms	13,596.26	0.08	1,087.70	4,361.90			
Total Study and Student Computer Rooms			9,968.33	12,837.70	128.8	60.9	*100.1*
10% of Total Eq. Volumes	417,646.41	0.004	1,670.59				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	3,158,817.66	0.005	15,794.09				
Total Stack	4,176,464.06		21,364.67	14,118.90	66.1	63.7	*62.2*
Library Support	30,245.30	0.25	7,561.33	5,935.60	78.5	70.7	*103.9*
Total Campus Study Space & Library Facilities			38,894.33	32,892.20	84.6	64.2	*80.5*
PHYSICAL EDUCATION/ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	15,964.36	0.9	14,367.93				
Total P.E./Athletics			14,367.93	14,034.50	97.7	72.6	*110.1*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	296,130.76	0.015	4,441.96	2,694.20	60.7	90.0	*74.8*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	15,964.36	2.0	31,928.73	27,409.20	85.8	67.1	*94.9*
TOTAL FORMULA AREAS			230,886.14	210,804.46	91.3	78.2	*100.7*

* Includes Other Research Appointments

Table 17
Institutional Space Requirements As Measured By COU Space Standards, 2001-02

RYERSON

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*1998-99 % I / G*
CLASSROOMS							
Total FTE Students	16,556.80	1.23	20,364.86	14,012.30	68.8	80.3	*83.7*
CLASS LABS							
Lab Contact Hours W	9,661.20	0.8	7,728.96	5,609.50			
Lab Contact Hours X	35,942.00	0.6	21,565.20	17,893.40			
Lab Contact Hours Y	3,478.10	0.5	1,739.05	1,928.40			
Lab Contact Hours Z	25,500.00	0.3	7,650.00	6,599.00			
Unclassified				0.00			
Total Class Lab			38,683.21	32,030.30	82.8	79.2	*78.7*
RESEARCH							
Research Disciplines A	43.25	45.0	1,946.25	922.80			
Research Disciplines B	116.37	30.0	3,491.10	1,805.10			
Research Disciplines C	61.21	20.0	1,224.20	339.40			
Research Disciplines D	71.00	10.0	710.00	159.60			
Research Disciplines E	517.52	1.0	517.52	44.10			
Unclassified				1,015.30			
Total Research			7,889.07	4,286.30	54.3	80.8	*34.4*
OFFICE - ACADEMIC							
Total FTE Faculty	716.95	13.0	9,320.35	9,293.20	86.1	106.8	*100.2*
Faculty Supplement *	113.54	13.0	1,476.05				
Total FTE Grads	182.80	4.0	731.20	632.20	86.5	59.6	*n/a*
Total FTE Non-Acd Staff	221.00	13.0	2,873.00	1,784.90	62.1	82.8	*55.8*
Office Service	14,400.60	0.3	4,320.18	2,335.30	54.1	77.7	*71.3*
Total Academic Office			18,720.78	14,045.60	75.0	86.1	*85.4*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	458.00	13.0	5,954.00	6,064.20	101.9	106.4	*105.2*
Office Service	5,954.00	0.3	1,786.20	3,764.70	210.8	182.0	*177.2*
Total Admin. Office			7,740.20	9,828.90	127.0	123.9	*121.8*
Total Office			26,460.98	23,874.50	90.2	94.0	*97.1*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
FTE UG - Excl. Prof.	16,374.00	0.5	8,187.00				
FTE UG - Professional	0.00	1.0	0.00				
FTE Grads	182.80	0.7	127.96				
Study	16,556.80		8,314.96	2,943.80			
Student Computer Rooms	16,374.00	0.08	1,309.92	0.00			
Total Study and Student Computer Rooms			9,624.88	2,943.80	30.6	60.9	*40.6*
10% of Total Eq. Volumes	76,947.32	0.004	307.79				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	92,525.85	0.005	462.63				
Total Stack	769,473.17		4,670.42	3,157.80	67.6	63.7	*65.3*
Library Support	12,985.38	0.25	3,246.34	2,166.90	66.7	70.7	*75.3*
Total Campus Study Space & Library Facilities			17,541.64	8,268.50	47.1	64.2	*55.1*
PHYSICAL EDUCATION/ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	16,556.80	0.9	14,901.12				
Total P.E./Athletics			14,901.12	6,156.50	41.3	72.6	*49.5*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	149,659.80	0.015	2,244.90	2,546.60	113.4	90.0	*116.7*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	16,556.80	2.0	33,113.60	15,353.10	46.4	67.1	*62.8*
TOTAL FORMULA AREAS			161,199.39	106,528.10	66.1	78.2	*72.8*

* Includes Other Research Appointments

Table 18
Institutional Space Requirements As Measured By COU Space Standards, 2001-02

TORONTO (ST. GEORGE)

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*1998-99 % I / G*
CLASSROOMS							
Total FTE Students	36,824.50	1.23	45,294.14	42,931.94	94.8	80.3	*108.2*
CLASS LABS							
Lab Contact Hours W	7,565.00	0.8	6,052.00	5,764.65			
Lab Contact Hours X	48,999.00	0.6	29,399.40	36,551.32			
Lab Contact Hours Y	6,281.00	0.5	3,140.50	1,624.40			
Lab Contact Hours Z	3,850.00	0.3	1,155.00	1,407.78			
Unclassified				0.00			
Total Class Lab			39,746.90	45,348.15	114.1	79.2	*114.3*
RESEARCH							
Research Disciplines A	1,303.20	45.0	58,644.00	48,503.09			
Research Disciplines B	969.13	30.0	29,073.75	25,137.69			
Research Disciplines C	340.05	20.0	6,801.00	5,084.11			
Research Disciplines D	599.77	10.0	5,997.65	3,022.88			
Research Disciplines E	3,443.27	1.0	3,443.27	577.25			
Unclassified				0.00			
Total Research			103,959.67	82,325.02	79.2	80.8	*85.1*
OFFICE - ACADEMIC							
Total FTE Faculty	1,996.60	13.0	25,955.80	47,251.96	120.1	106.8	*157.6*
Faculty Supplement *	1,030.10	13.0	13,391.30				
Total FTE Grads	8,588.50	4.0	34,354.00	14,944.73	43.5	59.6	*45.1*
Total FTE Non-Acd Staff	2,176.11	13.0	28,289.43	23,514.74	83.1	82.8	*106.1*
Office Service	101,990.53	0.3	30,597.16	24,647.35	80.6	77.7	*99.8*
Total Academic Office			132,587.69	110,358.78	83.2	86.1	*100.2*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	1,099.69	13.0	14,295.97	14,873.80	104.0	106.4	*115.9*
Office Service	14,295.97	0.3	4,288.79	8,287.84	193.2	182.0	*214.9*
Total Admin. Office			18,584.76	23,161.64	124.6	123.9	*138.8*
Total Office			151,172.45	133,520.42	88.3	94.0	*105.5*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
FTE UG - Excl. Prof.	25,460.20	0.5	12,730.10				
FTE UG - Professional	2,775.80	1.0	2,775.80				
FTE Grads	8,588.50	0.7	6,011.95				
Study	36,824.50		21,517.85	20,492.57			
Student Computer Rooms	28,236.00	0.08	2,258.88	4,726.40			
Total Study and Student Computer Rooms			23,776.73	25,218.97	106.1	60.9	*97.9*
10% of Total Eq. Volumes	1,306,145.99	0.004	5,224.58				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	11,155,313.92	0.005	55,776.57				
Total Stack	13,061,459.91		64,901.15	41,265.78	63.6	63.7	*68.1*
Library Support	86,419.00	0.25	21,604.75	17,423.64	80.6	70.7	*89.0*
Total Campus Study Space & Library Facilities			110,282.63	83,908.39	76.1	64.2	*78.2*
PHYSICAL EDUCATION/ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	36,824.50	0.9	33,142.05				
Total P.E./Athletics			33,142.05	24,626.53	74.3	72.6	*88.3*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	631,708.81	0.015	9,475.63	7,942.83	83.8	90.0	*89.1*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	36,824.50	2.0	73,649.00	54,160.63	73.5	67.1	*83.0*
TOTAL FORMULA AREAS			566,722.47	474,763.91	83.8	78.2	*92.9*

* Includes Other Research Appointments

Table 19
Institutional Space Requirements As Measured By COU Space Standards, 2001-02

TORONTO (MISSISSAUGA)

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*1998-99 % I / G*
CLASSROOMS							
Total FTE Students	5,137.60	1.23	6,319.25	4,990.73	79.0	80.3	*90.5*
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	6,371.00	0.6	3,822.60	4,647.69			
Lab Contact Hours Y	1,427.00	0.5	713.50	1,000.80			
Lab Contact Hours Z	985.00	0.3	295.50	340.58			
Unclassified				0.00			
Total Class Lab			4,831.60	5,989.07	124.0	79.2	*155.0*
RESEARCH							
Research Disciplines A	97.50	45.0	4,387.50	3,976.51			
Research Disciplines B	0.00	30.0	0.00	1,263.31			
Research Disciplines C	21.00	20.0	420.00	576.13			
Research Disciplines D	5.00	10.0	50.00	0.00			
Research Disciplines E	152.95	1.0	152.95	212.75			
Unclassified				0.00			
Total Research			5,010.45	6,028.70	120.3	80.8	*136.9*
OFFICE - ACADEMIC							
Total FTE Faculty	181.45	13.0	2,358.85	3,198.58	117.9	106.8	*119.9*
Faculty Supplement [4]	27.22	13.0	353.83				
Total FTE Grads	190.00	4.0	760.00	988.55	130.1	59.6	*313.2*
Total FTE Non-Acd Staff	89.02	13.0	1,157.26	695.84	60.1	82.8	*100.6*
Office Service	4,629.94	0.3	1,388.98	623.65	44.9	77.7	*36.3*
Total Academic Office			6,018.92	5,506.62	91.5	86.1	*112.1*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	94.42	13.0	1,227.46	1,425.95	116.2	106.4	*108.1*
Office Service	1,227.46	0.3	368.24	607.28	164.9	182.0	*206.8*
Total Admin. Office			1,595.70	2,033.23	127.4	123.9	*130.9*
Total Office			7,614.62	7,539.85	99.0	94.0	*116.5*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
FTE UG - Excl. Prof.	4,947.60	0.5	2,473.80				
FTE UG - Professional	0.00	1.0	0.00				
FTE Grads	190.00	0.7	133.00				
Study	5,137.60		2,606.80	1,654.68			
Student Computer Rooms	4,947.60	0.08	395.81	527.44			
Total Study and Student Computer Rooms			3,002.61	2,182.12	72.7	60.9	*71.5*
10% of Total Eq. Volumes	52,561.34	0.004	210.25				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	173,052.09	0.006	1,038.31				
Remainder	0.00	0.005	0.00				
Total Stack	525,613.43		3,348.56	1,901.19	56.8	63.7	*61.8*
Library Support	5,955.36	0.25	1,488.84	824.23	55.4	70.7	*46.5*
Total Campus Study Space & Library Facilities			7,840.01	4,907.54	62.6	64.2	*62.0*
PHYSICAL EDUCATION/ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	5,137.60		1,000.00				
Total FTE Students	5,137.60	0.9	4,623.84				
Total P.E./Athletics			5,623.84	2,393.44	42.6	72.6	*46.8*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	62,522.91	0.015	937.84	697.00	74.3	90.0	*87.3*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	5,137.60	2.0	10,275.20	6,808.80	66.3	67.1	*74.0*
TOTAL FORMULA AREAS			48,452.80	39,355.13	81.2	78.2	*91.2*

[4] Includes Other Research Appointments

Table 20
Institutional Space Requirements As Measured By COU Space Standards, 2001-02

TORONTO (SCARBOROUGH)

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*1998-99 % I / G*
CLASSROOMS							
Total FTE Students	4,974.90	1.23	6,119.13	3,907.02	63.8	80.3	*62.7*
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	6,130.00	0.6	3,678.00	4,280.91			
Lab Contact Hours Y	292.00	0.5	146.00	64.11			
Lab Contact Hours Z	853.00	0.3	255.90	234.05			
Unclassified				0.00			
Total Class Lab			4,079.90	4,579.07	112.2	79.2	*126.9*
RESEARCH							
Research Disciplines A	67.04	45.0	3,016.80	3,150.92			
Research Disciplines B	19.50	30.0	585.00	755.31			
Research Disciplines C	11.00	20.0	220.00	159.61			
Research Disciplines D	13.00	10.0	130.00	0.00			
Research Disciplines E	117.09	1.0	117.09	12.18			
Unclassified				0.00			
Total Research			4,068.89	4,078.02	100.2	80.8	*102.7*
OFFICE - ACADEMIC							
Total FTE Faculty	194.98	13.0	2,534.74	2,910.40	96.0	106.8	*109.6*
Faculty Supplement *	38.25	13.0	497.21				
Total FTE Grads	56.30	4.0	225.20	612.28	271.9	59.6	*261.8*
Total FTE Non-Acd Staff	56.01	13.0	728.13	489.37	67.2	82.8	*95.1*
Office Service	3,985.28	0.3	1,195.58	179.46	15.0	77.7	*26.9*
Total Academic Office			5,180.87	4,191.51	80.9	86.1	*97.5*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	102.93	13.0	1,338.09	1,272.77	95.1	106.4	*103.5*
Office Service	1,338.09	0.3	401.43	666.44	166.0	182.0	*209.3*
Total Admin. Office			1,739.52	1,939.21	111.5	123.9	*127.9*
Total Office			6,920.38	6,130.72	88.6	94.0	*105.1*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
FTE UG - Excl. Prof.	4,918.60	0.5	2,459.30				
FTE UG - Professional	0.00	1.0	0.00				
FTE Grads	56.30	0.7	39.41				
Study	4,974.90		2,498.71	1,190.84			
Student Computer Rooms	4,918.60	0.08	393.49	691.10			
Total Study and Student Computer Rooms			2,892.20	1,881.94	65.1	60.9	*60.2*
10% of Total Eq. Volumes	40,299.29	0.004	161.20				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	62,693.59	0.006	376.16				
Remainder	0.00	0.005	0.00				
Total Stack	402,992.88		2,637.36	1,157.21	43.9	63.7	*52.3*
Library Support	5,136.07	0.25	1,284.02	768.49	59.9	70.7	*57.4*
Total Campus Study Space & Library Facilities			6,813.57	3,807.64	55.9	64.2	*56.3*
PHYSICAL EDUCATION/ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	4,974.90		1,000.00				
Total FTE Students	4,974.90	0.9	4,477.41				
Total P.E./Athletics			5,477.41	3,968.03	72.4	72.6	*81.3*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	44,458.91	0.015	666.88	1,079.85	161.9	90.0	*167.6*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	4,974.90	2.0	9,949.80	5,246.31	52.7	67.1	*61.7*
TOTAL FORMULA AREAS			44,095.97	32,796.66	74.4	78.2	*82.5*

* Includes Other Research Appointments

Table 21
Institutional Space Requirements As Measured By COU Space Standards, 2001-02

TRENT

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*1998-99 % I / G*
CLASSROOMS							
Total FTE Students	4,592.88	1.23	5,649.24	4,744.96	84.0	80.3	*97.6*
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	5,069.00	0.6	3,041.40	1,722.00			
Lab Contact Hours Y	7,522.00	0.5	3,761.00	1,080.00			
Lab Contact Hours Z	95.00	0.3	28.50	153.00			
Unclassified				317.00			
Total Class Lab			6,830.90	3,272.00	47.9	79.2	*50.8*
RESEARCH							
Research Disciplines A	75.50	45.0	3,397.50	1,391.00			
Research Disciplines B	18.00	30.0	540.00	202.00			
Research Disciplines C	0.00	20.0	0.00	190.00			
Research Disciplines D	37.00	10.0	370.00	383.00			
Research Disciplines E	229.00	1.0	229.00	518.00			
Unclassified				299.00			
Total Research			4,536.50	2,983.00	65.8	80.8	*63.2*
OFFICE - ACADEMIC							
Total FTE Faculty	258.00	13.0	3,354.00	3,632.67	85.5	106.8	*120.0*
Faculty Supplement *	68.70	13.0	893.10				
Total FTE Grads	189.00	4.0	756.00	335.00	44.3	59.6	*85.2*
Total FTE Non-Acd Staff	102.00	13.0	1,326.00	1,085.07	81.8	82.8	*209.9*
Office Service	6,329.10	0.3	1,898.73	538.26	28.3	77.7	*35.6*
Total Academic Office			8,227.83	5,591.00	68.0	86.1	*106.0*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	177.00	13.0	2,301.00	2,954.78	128.4	106.4	*101.1*
Office Service	2,301.00	0.3	690.30	1,160.97	168.2	182.0	*204.1*
Total Admin. Office			2,991.30	4,115.75	137.6	123.9	*124.9*
Total Office			11,219.13	9,706.75	86.5	94.0	*113.4*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
FTE UG - Excl. Prof.	4,403.88	0.5	2,201.94				
FTE UG - Professional	0.00	1.0	0.00				
FTE Grads	189.00	0.7	132.30				
Study	4,592.88		2,334.24	291.71			
Student Computer Rooms	4,403.88	0.08	352.31	409.60			
Total Study and Student Computer Rooms			2,686.55	701.31	26.1	60.9	*17.5*
10% of Total Eq. Volumes	124,626.43	0.004	498.51				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	521,637.85	0.005	2,608.19				
Total Stack	1,246,264.27		7,006.69	4,074.04	58.1	63.7	*63.9*
Library Support	9,340.93	0.25	2,335.23	2,680.44	114.8	70.7	*121.8*
Total Campus Study Space & Library Facilities			12,028.48	7,455.79	62.0	64.2	*66.8*
PHYSICAL EDUCATION/ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	4,592.88		1,000.00				
Total FTE Students	4,592.88	0.9	4,133.59				
Total P.E./Athletics			5,133.59	3,187.03	62.1	72.6	*59.1*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	59,098.55	0.015	886.48	422.51	47.7	90.0	*68.6*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	4,592.88	2.0	9,185.76	6,041.39	65.8	67.1	*94.0*
TOTAL FORMULA AREAS			64 55,470.08	37,813.43	68.2	78.2	*78.9*

* Includes Other Research Appointments

Table 22
Institutional Space Requirements As Measured By COU Space Standards, 2001-02

WATERLOO

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*1998-99 % I / G*
CLASSROOMS							
Total FTE Students	16,734.30	1.23	20,583.19	17,689.90	85.9	80.3	*96.1*
CLASS LABS							
Lab Contact Hours W	9,666.00	0.8	7,732.80	5,114.85			
Lab Contact Hours X	30,060.00	0.6	18,036.00	14,494.01			
Lab Contact Hours Y	3,853.00	0.5	1,926.50	3,293.36			
Lab Contact Hours Z	10,817.00	0.3	3,245.10	2,393.25			
Unclassified				0.3			
Total Class Lab			30,940.40	25,295.80	81.8	79.2	*97.8*
RESEARCH							
Research Disciplines A	438.85	45.0	19,748.25	18,271.15			
Research Disciplines B	629.85	30.0	18,895.50	11,697.95			
Research Disciplines C	97.00	20.0	1,940.00	596.52			
Research Disciplines D	312.00	10.0	3,120.00	2,819.41			
Research Disciplines E	664.05	1.0	664.05	598.48			
Unclassified				0.58			
Total Research			44,367.80	33,984.10	76.6	80.8	*95.3*
OFFICE - ACADEMIC							
Total FTE Faculty	922.10	13.0	11,987.30	16,724.20	102.0	106.8	*128.9*
Faculty Supplement *	339.62	13.0	4,415.00				
Total FTE Grads	1,924.10	4.0	7,696.40	9,313.00	121.0	59.6	*130.3*
Total FTE Non-Acd Staff	773.00	13.0	10,049.00	4,875.90	48.5	82.8	*73.8*
Office Service	34,147.70	0.3	10,244.31	7,004.70	68.4	77.7	*89.2*
Total Academic Office			44,392.00	37,917.80	85.4	86.1	*109.3*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	623.80	13.0	8,109.40	10,279.80	126.8	106.4	*155.8*
Office Service	8,109.40	0.3	2,432.82	4,413.50	181.4	182.0	*235.2*
Total Admin. Office			10,542.22	14,693.30	139.4	123.9	*174.1*
Total Office			54,934.22	52,611.10	95.8	94.0	*121.8*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
FTE UG - Excl. Prof.	14,583.00	0.5	7,291.50				
FTE UG - Professional	227.00	1.0	227.00				
FTE Grads	1,924.10	0.7	1,346.87				
Study	16,734.10		8,865.37	5,091.60			
Student Computer Rooms	14,810.20	0.08	1,184.82	1,330.00			
Total Study and Student Computer Rooms			10,050.19	6,421.60	63.9	60.9	*73.1*
10% of Total Eq. Volumes	379,621.64	0.004	1,518.49				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	2,816,594.74	0.005	14,082.97				
Total Stack	3,796,216.38		19,501.46	8,492.90	43.6	63.7	*61.7*
Library Support	28,366.83	0.25	7,091.71	3,267.90	46.1	70.7	*74.3*
Total Campus Study Space & Library Facilities			36,643.35	18,182.40	49.6	64.2	*67.7*
PHYSICAL EDUCATION/ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	16,734.30	0.9	15,060.87				
Total P.E./Athletics			15,060.87	11,708.80	77.7	72.6	*86.8*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	303,642.30	0.015	4,554.63	6,087.00	133.6	90.0	*125.8*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	16,734.30	2.0	33,468.60	30,966.90	92.5	67.1	*111.0*
TOTAL FORMULA AREAS			240,553.07	196,526.00	81.7	78.2	*100.2*

* Includes Other Research Appointments

Table 23
Institutional Space Requirements As Measured By COU Space Standards, 2001-02

WESTERN

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*1998-99 % I / G*
CLASSROOMS							
Total FTE Students	26,252.60	1.23	32,290.70	31,412.00	97.3	80.3	*104.7*
CLASS LABS							
Lab Contact Hours W	5,474.00	0.8	4,379.20	1,782.80			
Lab Contact Hours X	49,611.00	0.6	29,766.60	19,935.20			
Lab Contact Hours Y	12,989.00	0.5	6,494.50	6,352.10			
Lab Contact Hours Z	12,591.00	0.3	3,777.30	3,321.30			
Unclassified				0.00			
Total Class Lab			44,417.60	31,391.40	70.7	79.2	*89.1*
RESEARCH							
Research Disciplines A	723.30	45.0	32,548.50	21,002.60			
Research Disciplines B	356.00	30.0	10,680.00	6,718.70			
Research Disciplines C	116.55	20.0	2,331.00	1,460.00			
Research Disciplines D	277.85	10.0	2,778.50	2,015.20			
Research Disciplines E	1,625.95	1.0	1,625.95	732.40			
Unclassified				0.00			
Total Research			49,963.95	31,928.90	63.9	80.8	*65.5*
OFFICE - ACADEMIC							
Total FTE Faculty	1,366.80	13.0	17,768.40	23,376.00	96.4	106.8	*116.6*
Faculty Supplement *	498.92	13.0	6,485.96				
Total FTE Grads	3,171.80	4.0	12,687.20	7,120.00	56.1	59.6	*54.2*
Total FTE Non-Acd Staff	1,181.80	13.0	15,363.40	6,820.00	44.4	82.8	*36.9*
Office Service	52,304.96	0.3	15,691.49	10,890.00	69.4	77.7	*75.2*
Total Academic Office			67,996.45	48,206.00	70.9	86.1	*75.3*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	1,280.00	13.0	16,640.00	13,445.00	80.8	106.4	*87.3*
Office Service	16,640.00	0.3	4,992.00	8,527.00	170.8	182.0	*184.7*
Total Admin. Office			21,632.00	21,972.00	101.6	123.9	*109.8*
Total Office			89,628.45	70,178.00	78.3	94.0	*84.3*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
FTE UG - Excl. Prof.	21,187.80	0.5	10,593.90				
FTE UG - Professional	1,893.00	1.0	1,893.00				
FTE Grads	3,171.80	0.7	2,220.26				
Study	26,252.60		14,707.16	9,606.00			
Student Computer Rooms	23,080.80	0.08	1,846.46	113.00			
Total Study and Student Computer Rooms			16,553.62	9,719.00	58.7	60.9	*75.0*
10% of Total Eq. Volumes	421,610.46	0.004	1,686.44				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	3,194,494.14	0.005	15,972.47				
Total Stack	4,216,104.60		21,558.91	15,422.00	71.5	63.7	*81.6*
Library Support	36,266.07	0.25	9,066.52	6,748.00	74.4	70.7	*78.7*
Total Campus Study Space & Library Facilities			47,179.05	31,889.00	67.6	64.2	*78.9*
PHYSICAL EDUCATION/ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	26,252.60	0.9	23,627.34				
Total P.E./Athletics			23,627.34	16,167.00	68.4	72.6	*74.7*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	373,565.00	0.015	5,603.48	5,891.00	105.1	90.0	*110.4*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	26,252.60	2.0	52,505.20	34,358.00	65.4	67.1	*74.0*
TOTAL FORMULA AREAS			345,215.77	253,215.30	73.3	78.2	*81.3*

* Includes Other Research Appointments

Table 24
Institutional Space Requirements As Measured By COU Space Standards, 2001-02

WILFRID LAURIER

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*1998-99 % I / G*
CLASSROOMS							
Total FTE Students	8,805.00	1.23	10,830.15	7,168.17	66.2	80.3	*72.7*
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	6,165.00	0.6	3,699.00	3,175.46			
Lab Contact Hours Y	3,145.00	0.5	1,572.50	1,390.85			
Lab Contact Hours Z	6,459.00	0.3	1,937.70	212.23			
Unclassified				20.29			
Total Class Lab			7,209.20	4,798.83	66.6	79.2	*100.7*
RESEARCH							
Research Disciplines A	25.00	45.0	1,125.00	744.00			
Research Disciplines B	39.00	30.0	1,170.00	759.00			
Research Disciplines C	22.00	20.0	440.00	69.00			
Research Disciplines D	37.50	10.0	375.00	267.00			
Research Disciplines E	524.00	1.0	524.00	342.00			
Unclassified				0.00			
Total Research			3,634.00	2,181.00	60.0	80.8	*57.1*
OFFICE - ACADEMIC							
Total FTE Faculty	342.00	13.0	4,446.00	5,251.15	102.7	106.8	*112.4*
Faculty Supplement *	51.30	13.0	666.90				
Total FTE Grads	615.00	4.0	2,460.00	804.67	32.7	59.6	*27.4*
Total FTE Non-Acd Staff	124.00	13.0	1,612.00	1,336.81	82.9	82.8	*95.8*
Office Service	9,184.90	0.3	2,755.47	1,836.24	66.6	77.7	*50.3*
Total Academic Office			11,940.37	9,228.87	77.3	86.1	*76.1*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	287.00	13.0	3,731.00	4,115.07	110.3	106.4	*89.4*
Office Service	3,731.00	0.3	1,119.30	3,390.02	302.9	182.0	*368.7*
Total Admin. Office			4,850.30	7,505.09	154.7	123.9	*153.8*
Total Office			16,790.67	16,733.96	99.7	94.0	*102.8*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
FTE UG - Excl. Prof.	8,190.00	0.5	4,095.00				
FTE UG - Professional	0.00	1.0	0.00				
FTE Grads	615.00	0.7	430.50				
Study	8,805.00		4,525.50	2,258.84			
Student Computer Rooms	8,190.00	0.08	655.20	649.00			
Total Study and Student Computer Rooms			5,180.70	2,907.84	56.1	60.9	*62.5*
10% of Total Eq. Volumes	126,611.48	0.004	506.45				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	539,503.30	0.005	2,697.52				
Total Stack	1,266,114.77		7,103.96	3,914.32	55.1	63.7	*66.5*
Library Support	11,629.46	0.25	2,907.37	1,352.18	46.5	70.7	*73.0*
Total Campus Study Space & Library Facilities			15,192.03	8,174.34	53.8	64.2	*66.6*
PHYSICAL EDUCATION/ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	8,805.00	0.9	7,924.50				
Total P.E./Athletics			7,924.50	6,164.41	77.8	72.6	*87.5*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	101,555.54	0.015	1,523.33	1,086.90	71.4	90.0	*86.2*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	8,805.00	2.0	17,610.00	12,103.79	68.7	67.1	*87.6*
TOTAL FORMULA AREAS			80,713.88	58,411.40	72.4	78.2	*85.1*

* Includes Other Research Appointments

Table 25
Institutional Space Requirements As Measured By COU Space Standards, 2001-02

WINDSOR

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*1998-99 % I / G*
CLASSROOMS							
Total FTE Students	11,028.94	1.23	13,565.60	10,017.00	73.8	80.3	*85.8*
CLASS LABS							
Lab Contact Hours W	2,457.00	0.8	1,965.60	3,233.00			
Lab Contact Hours X	11,210.00	0.6	6,726.00	8,597.00			
Lab Contact Hours Y	7,998.00	0.5	3,999.00	1,275.00			
Lab Contact Hours Z	7,614.00	0.3	2,284.20	1,972.00			
Unclassified				467.00			
Total Class Lab			14,974.80	15,544.00	103.8	79.2	*105.9*
RESEARCH							
Research Disciplines A	123.20	45.0	5,544.00	7,336.00			
Research Disciplines B	170.00	30.0	5,100.00	3,239.00			
Research Disciplines C	34.20	20.0	684.00	1,067.00			
Research Disciplines D	117.03	10.0	1,170.25	427.00			
Research Disciplines E	399.18	1.0	399.18	133.00			
Unclassified				0.00			
Total Research			12,897.43	12,202.00	94.6	80.8	*100.4*
OFFICE - ACADEMIC							
Total FTE Faculty	468.00	13.0	6,084.00	10,211.00	134.0	106.8	*142.9*
Faculty Supplement *	118.20	13.0	1,536.60				
Total FTE Grads	703.20	4.0	2,812.80	2,494.00	88.7	59.6	*117.6*
Total FTE Non-Acd Staff *	264.00	13.0	3,432.00	2,332.00	67.9	82.8	*89.3*
Office Service	13,865.40	0.3	4,159.62	3,411.00	82.0	77.7	*92.3*
Total Academic Office			18,025.02	18,448.00	102.3	86.1	*119.2*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	390.00	13.0	5,070.00	4,850.00	95.7	106.4	*178.2*
Office Service	5,070.00	0.3	1,521.00	2,583.00	169.8	182.0	*290.7*
Total Admin. Office			6,591.00	7,433.00	112.8	123.9	*204.2*
Total Office			24,616.02	25,881.00	105.1	94.0	*137.4*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
FTE UG - Excl. Prof.	9,088.86	0.5	4,544.43				
FTE UG - Professional	1,236.90	1.0	1,236.90				
FTE Grads	703.20	0.7	492.24				
Study	11,028.96		6,273.57	5,914.00			
Student Computer Rooms	10,325.74	0.08	826.06	396.00			
Total Study and Student Computer Rooms			7,099.63	6,310.00	88.9	60.9	*101.2*
10% of Total Eq. Volumes	286,402.32	0.004	1,145.61				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	1,977,620.89	0.005	9,888.10				
Total Stack	2,864,023.21		14,933.71	7,438.00	49.8	63.7	*60.6*
Library Support	21,207.28	0.25	5,301.82	3,099.00	58.5	70.7	*77.8*
Total Campus Study Space & Library Facilities			27,335.16	16,847.00	61.6	64.2	*75.1*
PHYSICAL EDUCATION/ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	11,028.94	0.9	9,926.05				
Total P.E./Athletics			9,926.05	10,271.00	103.5	72.6	*116.3*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	134,800.00	0.015	2,022.00	1,909.00	94.4	90.0	*91.0*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	11,028.94	2.0	22,057.88	17,258.00	78.2	67.1	*90.3*
TOTAL FORMULA AREAS			127,394.93	109,929.00	86.3	78.2	*100.2*

* Includes Other Research Appointments

Table 26
Institutional Space Requirements As Measured By COU Space Standards, 2001-02

YORK (KEELE)

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*1998-99 % I / G*
CLASSROOMS							
Total FTE Students	29,282.00	1.23	36,016.86	22,309.00	61.9	80.3	*70.5*
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	27,788.50	0.6	16,673.10	12,539.00			
Lab Contact Hours Y	9,673.50	0.5	4,836.75	1,615.00			
Lab Contact Hours Z	5,146.50	0.3	1,543.95	1,542.00			
Unclassified				1,341.00			
Total Class Lab			23,053.80	17,037.00	73.9	79.2	*78.3*
RESEARCH							
Research Disciplines A	223.65	45.0	10,064.25	7,807.00			
Research Disciplines B	193.33	30.0	5,799.90	2,161.00			
Research Disciplines C	288.80	20.0	5,776.00	392.00			
Research Disciplines D	201.00	10.0	2,010.00	1,638.00			
Research Disciplines E	2,018.35	1.0	2,018.35	511.00			
Unclassified				1,664.00			
Total Research			25,668.50	14,173.00	55.2	80.8	*57.3*
OFFICE - ACADEMIC							
Total FTE Faculty	1,281.58	13.0	16,660.54	19,396.00	93.3	106.8	*95.4*
Faculty Supplement *	317.24	13.0	4,124.08				
Total FTE Grads	3,174.00	4.0	12,696.00	5,283.00	41.6	59.6	*50.3*
Total FTE Non-Acd Staff	652.00	13.0	8,476.00	9,112.00	107.5	82.8	*114.0*
Office Service	41,956.62	0.3	12,586.99	10,194.00	81.0	77.7	*104.9*
Total Academic Office			54,543.61	43,985.00	80.6	86.1	*92.7*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	921.00	13.0	11,973.00	12,006.00	100.3	106.4	*96.6*
Office Service	11,973.00	0.3	3,591.90	5,696.00	158.6	182.0	*182.3*
Total Admin. Office			15,564.90	17,702.00	113.7	123.9	*116.4*
Total Office			70,108.51	61,687.00	88.0	94.0	*96.2*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
FTE UG - Excl. Prof.	24,082.00	0.5	12,041.00				
FTE UG - Professional	2,026.00	1.0	2,026.00				
FTE Grads	3,174.00	0.7	2,221.80				
Study	29,282.00		16,288.80	6,027.00			
Student Computer Rooms	26,108.00	0.08	2,088.64	97.00			
Total Study and Student Computer Rooms			18,377.44	6,124.00	33.3	60.9	*43.3*
10% of Total Eq. Volumes	336,793.53	0.004	1,347.17				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	2,431,141.81	0.005	12,155.71				
Total Stack	3,367,935.34		17,402.88	10,141.00	58.3	63.7	*58.5*
Library Support	33,691.68	0.25	8,422.92	5,504.00	65.3	70.7	*72.0*
Total Campus Study Space & Library Facilities			44,203.24	21,769.00	49.2	64.2	*55.0*
PHYSICAL EDUCATION/ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	29,282.00	0.9	26,353.80				
Total P.E./Athletics			26,353.80	8,741.00	33.2	72.6	*39.8*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	274,245.00	0.015	4,113.68	3,840.00	93.3	90.0	*89.4*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	29,282.00	2.0	58,564.00	30,879.00	52.7	67.1	*58.4*
TOTAL FORMULA AREAS			288,082.39	180,435.00	62.6	78.2	*68.8*

* Includes Other Research Appointments

Table 27
Institutional Space Requirements As Measured By COU Space Standards, 2001-02

YORK (GLENDON)

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*1998-99 % I / G*
CLASSROOMS							
Total FTE Students	1,382.00	1.23	1,699.86	2,274.00	133.8	80.3	*136.7*
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	0.00	0.6	0.00	0.00			
Lab Contact Hours Y	0.00	0.5	0.00	0.00			
Lab Contact Hours Z	1,079.00	0.3	323.70	419.00			
Unclassified				80.00			
Total Class Lab			323.70	499.00	154.2	79.2	*132.3*
RESEARCH							
Research Disciplines A	0.00	45.0	0.00	0.00			
Research Disciplines B	7.28	30.0	218.40	0.00			
Research Disciplines C	0.00	20.0	0.00	0.00			
Research Disciplines D	3.51	10.0	35.10	0.00			
Research Disciplines E	101.53	1.0	101.53	186.00			
Unclassified				0.00			
Total Research			355.03	186.00	52.4	80.8	*34.5*
OFFICE - ACADEMIC							
Total FTE Faculty	99.32	13.0	1,291.16	2,106.00	141.8	106.8	*128.9*
Faculty Supplement *	14.90	13.0	193.67				
Total FTE Grads	26.00	4.0	104.00	32.00	30.8	59.6	*34.4*
Total FTE Non-Acd Staff	35.00	13.0	455.00	581.00	127.7	82.8	*156.8*
Office Service	2,043.83	0.3	613.15	514.00	83.8	77.7	*95.0*
Total Academic Office			2,656.98	3,233.00	121.7	86.1	*123.8*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	33.00	13.0	429.00	643.00	149.9	106.4	*292.5*
Office Service	429.00	0.3	128.70	380.00	295.3	182.0	*489.0*
Total Admin. Office			557.70	1,023.00	183.4	123.9	*337.8*
Total Office			3,214.68	4,256.00	132.4	94.0	*131.8*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
FTE UG - Excl. Prof.	1,356.00	0.5	678.00				
FTE UG - Professional	0.00	1.0	0.00				
FTE Grads	26.00	0.7	18.20				
Study	1,382.00		696.20	446.00			
Student Computer Rooms	1,356.00	0.08	108.48	0.00			
Total Study and Student Computer Rooms			804.68	446.00	55.4	60.9	*76.5*
10% of Total Eq. Volumes	40,923.10	0.004	163.69				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	68,307.93	0.006	409.85				
Remainder	0.00	0.005	0.00				
Total Stack	409,231.03		2,673.54	1,123.00	42.0	63.7	*37.7*
Library Support	3,369.74	0.25	842.43	269.00	31.9	70.7	*36.7*
Total Campus Study Space & Library Facilities			4,320.65	1,838.00	42.5	64.2	*43.9*
PHYSICAL EDUCATION/ATHLETICS							
Under 4,000 FTE Enrol.	1,382.00		2,000.00				
4,000-8,000 Enrol.	0.00						
Total FTE Students	1,382.00	0.9	1,243.80				
Total P.E./Athletics			3,243.80	2,846.00	87.7	72.6	*90.4*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	23,731.00	0.015	355.97	343.00	96.4	90.0	*96.3*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	1,382.00	2.0	2,764.00	3,343.00	120.9	67.1	*125.5*
TOTAL FORMULA AREAS			16,277.69	15,585.00	95.7	78.2	*96.0*

* Includes Other Research Appointments

Section 4

SUMMARY TABLES

Table 28

Classroom Facilities (1): Generated Space and Inventory, 2001-02

	FTE Students	Generated Space	Inventory NASM	Inventory/ FTE Student	% I/G	*1998-99 % I/G*
Brock	9,453.9	11,628	7,764	0.8	66.8	*64.0*
Carleton	14,660.7	18,033	11,947	0.8	66.3	*77.4*
Guelph	14,546.1	17,892	12,550	0.9	70.1	*77.6*
Lakehead	5,353.6	6,585	6,166	1.2	93.6	*90.3*
Laurentian	4,521.2	5,561	6,384	1.4	114.8	*113.8*
Laurentian (Algo)	674.3	829	780	1.2	94.0	*183.0*
Laurentian (Hear)	105.6	130	609	5.8	468.9	*525.2*
McMaster	15,817.7	19,456	15,418	1.0	79.2	*83.2*
Nipissing	2,526.0	3,107	2,799	1.1	90.1	*80.5*
OCAD	2,049.2	2,521	2,143	1.0	85.0	*80.5*
Ottawa	21,037.0	25,876	20,547	1.0	79.4	*87.9*
Queen's	15,964.4	19,636	16,450	1.0	83.8	*106.9*
Ryerson	16,556.8	20,365	14,012	0.8	68.8	*83.7*
Toronto (St. Grge)	36,824.5	45,294	42,932	1.2	94.8	*108.2*
Toronto (Miss)	5,137.6	6,319	4,991	1.0	79.0	*90.5*
Toronto (Scar)	4,974.9	6,119	3,907	0.8	63.8	*62.7*
Trent	4,592.9	5,649	4,745	1.0	84.0	*97.6*
Waterloo	16,734.3	20,583	17,690	1.1	85.9	*96.1*
Western	26,252.6	32,291	31,412	1.2	97.3	*104.7*
Wilfrid Laurier	8,805.0	10,830	7,168	0.8	66.2	*72.7*
Windsor	11,028.9	13,566	10,017	0.9	73.8	*85.8*
York (Keele)	29,282.0	36,017	22,309	0.8	61.9	*70.5*
York (Glen)	1,382.0	1,700	2,274	1.6	133.8	*136.7*
Total	268,281.2	329,986	265,015	1.0	80.3	*90.0*

Input Measure: Total FTE Students (as defined in Appendix D).

Space Factor: 1.23 NASM

System Average: 0.99 NASM per FTE Student.
(Actual Classroom inventory divided by Total FTE Students.)

Table 29

Class Lab Space (2): Generated Space and Inventory, 2001-02

	Class Lab Hours	Generated Space	Inventory NASM	% I/G	*1998-99 % I/G*
Brock	28,036.0	13,985	7,522	53.8	*66.0*
Carleton	30,920.5	18,836	16,592	88.1	*100.6*
Guelph	71,611.4	43,932	23,915	54.4	*60.0*
Lakehead	18,529.0	9,935	11,681	117.6	*89.6*
Laurentian	11,891.0	6,241	7,239	116.0	*125.7*
Laurentian (Algo)	2,044.0	897	692	77.2	*179.5*
Laurentian (Hear)	1,581.0	544	544	100.0	*113.1*
McMaster	44,836.0	24,249	18,413	75.9	*86.2*
Nipissing	18,658.0	9,279	2,917	31.4	*27.4*
OCAD	22,386.0	13,432	6,376	47.5	*40.4*
Ottawa	43,079.3	23,858	17,531	73.5	*90.0*
Queen's	46,826.0	27,920	24,178	86.6	*107.2*
Ryerson	74,581.3	38,683	32,030	82.8	*78.7*
Toronto (St. Grge)	66,695.0	39,747	45,348	114.1	*114.3*
Toronto (Miss)	8,783.0	4,832	5,989	124.0	*155.0*
Toronto (Scar)	7,275.0	4,080	4,579	112.2	*126.9*
Trent	12,686.0	6,831	3,272	47.9	*50.8*
Waterloo	54,396.0	30,940	25,296	81.8	*97.8*
Western	80,665.0	44,418	31,391	70.7	*89.1*
Wilfrid Laurier	15,769.0	7,209	4,799	66.6	*100.7*
Windsor	29,279.0	14,975	15,544	103.8	*105.9*
York (Keele)	42,608.5	23,054	17,037	73.9	*78.3*
York (Glen)	1,079.0	324	499	154.2	*132.3*
Total	734,215.0	408,197	323,386	79.2	*87.3*

Note: The Inventory NASM figures do not necessarily agree with the Lab-Undergraduate figures on Table 2, at some institutions. Only Class Labs that are associated with Groups W to Z are included in this table.

Input Measure: Total Laboratory Weekly Student Contact Hours (as defined in Appendix D) for programs in Groups W, X, Y, and Z (as defined in Appendix E).

System Average, Space Factor:	System Average	Space Factor
Group W:	0.59	0.80
Group X:	0.50	0.60
Group Y:	0.32	0.50
Group Z:	0.24	0.30

Actual Class Lab inventory divided by Class Lab Hours (weighted average as defined in Input Measure).

Table 30

Lab - Research Facilities (3): Generated Space and Inventory, 2001-02

	Research Staff	Generated Space	Inventory NASM	Inventory/ Research Staff	% I/G	*1998-99 % I/G*
Brock	624.8	5,822	6,443	10.3	110.7	*83.1*
Carleton	1,723.6	19,521	12,667	7.3	64.9	*61.4*
Guelph	1,528.6	40,942	44,959	29.4	109.8	*111.7*
Lakehead	404.7	5,826	4,451	11.0	76.4	*75.8*
Laurentian	516.9	6,823	5,142	9.9	75.4	*68.0*
Laurentian (Algo)	20.3	198		not applicable		*n/a*
Laurentian (Hear)	23.0	134		not applicable		*n/a*
McMaster	2,070.7	41,960	39,339	19.0	93.8	*100.6*
Nipissing	142.2	965	166	1.2	17.2	*22.9*
OCAD	71.8	411		not applicable		*n/a*
Ottawa	2,498.3	32,765	24,639	9.9	75.2	*76.1*
Queen's	2,207.6	37,109	35,261	16.0	95.0	*95.5*
Ryerson	809.4	7,889	4,286	5.3	54.3	*34.4*
Toronto (St. Grge)	6,655.4	103,960	82,325	12.4	79.2	*85.1*
Toronto (Miss)	276.5	5,010	6,029	21.8	120.3	*136.9*
Toronto (Scar)	227.6	4,069	4,078	17.9	100.2	*102.7*
Trent	359.5	4,537	2,983	8.3	65.8	*63.2*
Waterloo	2,141.8	44,368	33,984	15.9	76.6	*95.3*
Western	3,099.7	49,964	31,929	10.3	63.9	*65.5*
Wilfrid Laurier	647.5	3,634	2,181	3.4	60.0	*57.1*
Windsor	843.6	12,897	12,202	14.5	94.6	*100.4*
York (Keele)	2,925.1	25,669	14,173	4.8	55.2	*57.3*
York (Glen)	112.3	355	186	1.7	52.4	*34.5*
Total	29,930.6	454,829	367,422	12.3	80.8	*84.4*

Note: The Inventory NASM figures do not necessarily agree with the Lab-Grad & Faculty figures on Table 2, at some institutions. Only Research Labs that are associated with Groups A to E are included in this table.

Input Measure: Research Staff is calculated by summing the total of FTE Faculty plus one-half Graduate Students plus one-half Other Research Appointments in Research Disciplines (as defined in Appendix C).

System Average, Space Factor

	System Average	Space Factor
Group A:	38.4	45
Group B:	23.5	30
Group C:	11.5	20
Group D:	7.7	10
Group E:	0.6	1

Actual Research space divided by Research Staff (weighted average as defined in Input Measure).

Table 31

Academic Departmental Office Space and Related Space (4):
Generated Space and Inventory, 2001-02

	FTE Faculty	Generated Space	Inventory NASM	% I/G	*1998-99 % I/G*
Brock	438.3	13,811	9,779	70.8	*68.2*
Carleton	683.4	29,014	27,677	95.4	*105.1*
Guelph	665.0	28,254	33,630	119.0	*119.0*
Lakehead	286.8	8,632	6,424	74.4	*75.9*
Laurentian	400.4	10,490	9,855	93.9	*97.0*
Laurentian (Algo)	20.3	479	813	169.8	*32.8*
Laurentian (Hear)	23.0	447	374	83.7	*46.9*
McMaster	922.7	45,589	37,088	81.4	*89.6*
Nipissing	116.5	3,224	1,435	44.5	*52.5*
OCAD	71.8	1,547	724	46.8	*43.8*
Ottawa	1,061.4	45,944	46,091	100.3	*94.6*
Queen's	870.8	46,124	45,288	98.2	*123.5*
Ryerson	717.0	18,721	14,046	75.0	*85.4*
Toronto (St. Grge)	1,996.6	132,588	110,359	83.2	*100.2*
Toronto (Miss)	181.5	6,019	5,507	91.5	*112.1*
Toronto (Scar)	195.0	5,181	4,192	80.9	*97.5*
Trent	258.0	8,228	5,591	68.0	*106.0*
Waterloo	922.1	44,392	37,918	85.4	*109.3*
Western	1,366.8	67,996	48,206	70.9	*75.3*
Wilfrid Laurier	342.0	11,940	9,229	77.3	*76.1*
Windsor	468.0	18,025	18,448	102.3	*119.2*
York (Keele)	1,281.6	54,544	43,985	80.6	*92.7*
York (Glen)	99.3	2,657	3,233	121.7	*123.8*
Total	13,388.1	603,847	519,890	86.1	*96.8*

Input Measure: Total FTE Faculty (as defined in Appendix D) plus 15%, total Other Research Appointments, total FTE Non-Academic Staff requiring offices, and total FTE Graduate Students.

Space Factor: 13 NASM per FTE Faculty, Other Research Appointments and FTE Non-Academic Staff, Faculty Supplement = 15% of FTE Faculty, 4 NASM per FTE Graduate Student, plus 30% allowance for office support space.

System Average: 38.8 NASM per FTE Faculty.
(Actual Space for Faculty, Other Research Appointments, Graduate Students, and non-academic departmental staff (including service space) divided by Total FTE Faculty.

Table 31A

Graduate Student Office Space (4.3):
Generated Space and Inventory, 2001-02

	Graduate Students	Generated Space	Inventory NASM	% I/G	*1998-99 % I/G*
Brock	344.0	1,376	655	47.6	*53.8*
Carleton	2,002.5	8,010	5,076	63.4	*77.2*
Guelph	1,667.9	6,672	6,941	104.0	*97.0*
Lakehead	225.8	903	772	85.4	*80.4*
Laurentian	218.6	874	817	93.4	*33.5*
Laurentian (Algo)		not applicable			
Laurentian (Hear)		not applicable			
McMaster	2,044.9	8,180	5,384	65.8	*70.4*
Nipissing	51.3	205	0	not applicable	
OCAD		not applicable			
Ottawa	2,883.0	11,532	4,280	37.1	*42.8*
Queen's	2,368.1	9,472	6,562	69.3	*29.2*
Ryerson	182.8	731	632	86.5	na
Toronto (St. Grge)	8,588.5	34,354	14,945	43.5	*45.1*
Toronto (Miss)	190.0	760	989	130.1	*313.2*
Toronto (Scar)	56.3	225	612	271.9	*261.8*
Trent	189.0	756	335	44.3	*85.2*
Waterloo	1,924.1	7,696	9,313	121.0	*130.3*
Western	3,171.8	12,687	7,120	56.1	*54.2*
Wilfrid Laurier	615.0	2,460	805	32.7	*27.4*
Windsor	703.2	2,813	2,494	88.7	*117.6*
York (Keele)	3,174.0	12,696	5,283	41.6	*50.3*
York (Glen)	26.0	104	32	30.8	*34.4*
Total	30,626.8	122,507	73,047	59.6	*59.4*

Input Measure: Total FTE Graduate Students.

Space Factor: 4 NASM

System Average: 2.4 NASM per Graduate Student.
(Actual Space for Graduate Students (including service space) divided by Total Graduate Students.)

Table 32

Administrative Office Space (10): Generated Space and Inventory, 2001-02

	FTE Non-Acad. Office Staff	Space Generated	Inventory NASM	Inventory/ Office Staff	% I/G	*1998-99 % I/G*
Brock	236.7	4,000	5,046	21.3	126.1	*100.9*
Carleton	430.3	7,272	8,946	20.8	123.0	*104.1*
Guelph	519.6	8,781	17,794	34.2	202.7	*248.7*
Lakehead	360.3	6,088	3,850	10.7	63.2	*74.1*
Laurentian	185.0	3,127	4,719	25.5	150.9	*136.6*
Laurentian (Alg)	45.0	761	1,069	23.8	140.6	*116.6*
Laurentian (Hea)	13.0	220	218	16.8	99.1	*232.0*
McMaster	582.9	9,851	11,620	19.9	118.0	*117.5*
Nipissing	65.0	1,099	1,254	19.3	114.2	*115.7*
OCAD	74.2	1,254	1,069	14.4	85.3	*84.5*
Ottawa	799.5	13,512	17,132	21.4	126.8	*186.4*
Queen's	619.2	10,464	12,598	20.3	120.4	*99.4*
Ryerson	458.0	7,740	9,829	21.5	127.0	*121.8*
Toronto (St. Grge)	1,099.7	18,585	23,162	21.1	124.6	*138.8*
Toronto (Miss)	94.4	1,596	2,033	21.5	127.4	*130.9*
Toronto (Scar)	102.9	1,740	1,939	18.8	111.5	*127.9*
Trent	177.0	2,991	4,116	23.3	137.6	*124.9*
Waterloo	623.8	10,542	14,693	23.6	139.4	*174.1*
Western	1,280.0	21,632	21,972	17.2	101.6	*109.8*
Wilfrid Laurier	287.0	4,850	7,505	26.2	154.7	*153.8*
Windsor	390.0	6,591	7,433	19.1	112.8	*204.2*
York (Keele)	921.0	15,565	17,702	19.2	113.7	*116.4*
York (Glen)	33.0	558	1,023	31.0	183.4	*337.8*
Total	9,397.5	158,817	196,723	20.9	123.9	*135.1*

Laurentian (Alg) did not provide FTE Non-Academic Office Staff figures in 1998; 1995 figures used.

Input Measure: Total FTE Non-Academic Office Staff requiring offices.

Space Factor: 13 NASM for FTE Non-Academic Office Staff, plus 30% allowance for office support space. (16.9 NASM including office support space.)

System Average: 20.9 NASM per Non-Academic Office Staff. (Total Actual Non-Academic Office Staff Space (including service space) divided by Non-Academic Staff.)

Table 33

Campus Study Space & Library Facilities (5): Generated Space and Inventory, 2001-02

	FTE Students	Generated Space	Inventory NASM	Inventory / FTE Students	% I/G	*1998-99 % I/G*
Brock	9,453.9	14,820	5,816	0.6	39.2	*54.9*
Carleton	14,660.7	24,873	15,252	1.0	61.3	*65.9*
Guelph	14,546.1	24,257	13,258	0.9	54.7	*48.5*
Lakehead	5,353.6	10,967	6,491	1.2	59.2	*63.2*
Laurentian	4,521.2	12,630	9,505	2.1	75.3	*84.8*
Laurentian (Algo)	674.3	1,798	2,233	3.3	124.2	*165.0*
Laurentian (Hear)	105.6	1,049	393	3.7	37.5	*85.1*
McMaster	15,817.7	30,700	25,637	1.6	83.5	*88.7*
Nipissing	2,526.0	4,034	2,019	0.8	50.0	*53.0*
OCAD	2,049.2	2,417	921	0.4	38.1	*28.8*
Ottawa	21,037.0	38,851	21,897	1.0	56.4	*59.5*
Queen's	15,964.4	38,894	32,892	2.1	84.6	*80.5*
Ryerson	16,556.8	17,542	8,269	0.5	47.1	*55.1*
Toronto (St. Grge)	36,824.5	110,283	83,908	2.3	76.1	*78.2*
Toronto (Miss)	5,137.6	7,840	4,908	1.0	62.6	*62.0*
Toronto (Scar)	4,974.9	6,814	3,808	0.8	55.9	*56.3*
Trent	4,592.9	12,028	7,456	1.6	62.0	*66.8*
Waterloo	16,734.3	36,643	18,182	1.1	49.6	*67.7*
Western	26,252.6	47,179	31,889	1.2	67.6	*78.9*
Wilfrid Laurier	8,805.0	15,192	8,174	0.9	53.8	*66.6*
Windsor	11,028.9	27,335	16,847	1.5	61.6	*75.1*
York (Keele)	29,282.0	44,203	21,769	0.7	49.2	*55.5*
York (Glen)	1,382.0	4,321	1,838	1.3	42.5	*43.9*
Total	268,281.2	534,670	343,363	1.3	64.2	*69.7*

Input Measure: Total FTE Students and Total Equivalent Volumes.

Space Factor: The range is between 0.5 NASM and 1.0 NASM for FTE Students, from 0.004 NASM to 0.007 NASM for Equivalent Volumes, and 0.08 for Student Computer Rooms, plus 25% allowance for service space.

System Average: 1.28 NASM per FTE Student.
(Stack space for total volumes, study space for FTE undergraduates, professional undergraduates & graduates, computing space, and service space for the number of volumes and students) divided by Total FTE Students.

Table 34

Physical Education / Athletics Space (6): Generated Space and Inventory, 2001-02

	FTE Students	Generated Space	Inventory NASM	Inventory / FTE Students	% I/G	*1998-99 % I/G*
Brock	9,453.9	8,509	7,184	0.8	84.4	*84.9*
Carleton	14,660.7	13,195	9,914	0.7	75.1	*79.6*
Guelph	14,546.1	13,092	19,370	1.3	148.0	*140.3*
Lakehead	5,353.6	5,818	4,601	0.9	79.1	*74.9*
Laurentian	4,521.2	5,069	6,352	1.4	125.3	*120.1*
Laurentian (Algo)	674.3	2,607	3,644	5.4	139.8	*140.1*
Laurentian (Hear)	105.6	2,095	553	5.2	26.4	*33.9*
McMaster	15,817.7	14,236	9,303	0.6	65.4	*64.1*
Nipissing	2,526.0	4,273	2,549	1.0	59.6	*17.9*
OCAD	2,049.2	3,844		not applicable		
Ottawa	21,037.0	18,933	12,419	0.6	65.6	*41.3*
Queen's	15,964.4	14,368	14,035	0.9	97.7	*110.1*
Ryerson	16,556.8	14,901	6,157	0.4	41.3	*49.5*
Toronto (St. Grge)	36,824.5	33,142	24,627	0.7	74.3	*88.3*
Toronto (Miss)	5,137.6	5,624	2,393	0.5	42.6	*46.8*
Toronto (Scar)	4,974.9	5,477	3,968	0.8	72.4	*81.3*
Trent	4,592.9	5,134	3,187	0.7	62.1	*59.1*
Waterloo	16,734.3	15,061	11,709	0.7	77.7	*86.8*
Western	26,252.6	23,627	16,167	0.6	68.4	*74.7*
Wilfrid Laurier	8,805.0	7,925	6,164	0.7	77.8	*87.5*
Windsor	11,028.9	9,926	10,271	0.9	103.5	*116.3*
York (Keele)	29,282.0	26,354	8,741	0.3	33.2	*39.8*
York (Glen)	1,382.0	3,244	2,846	2.1	87.7	*90.4*
Total	268,281.2	256,453	186,153	0.7	72.6	*75.4*

Input Measure: Total FTE Students (as defined in Appendix D).

Space Factor: 0.9 NASM

System Average: 0.69 NASM per FTE Student.
(Total Actual Physical Education/Athletics space divided by Total FTE students.)

Table 35

Maintenance Space (9): Generated Space and Inventory, 2001-02

	NASM Inventory	Generated Space	Inventory NASM	% I/G	*1998-99 % I/G*
Brock	98,228.1	1,473	1,494	101.4	*117.5*
Carleton	173,515.1	2,603	1,781	68.4	*76.9*
Guelph	321,664.0	4,825	4,776	99.0	*114.2*
Lakehead	86,930.5	1,304	1,172	89.9	*90.2*
Laurentian	85,394.6	1,281	1,672	130.5	*164.0*
Laurentian (Algo)	12,883.2	193	346	178.8	*135.4*
Laurentian (Hear)	5,357.0	80	191	237.9	*667.4*
McMaster	290,627.7	4,359	4,690	107.6	*113.2*
Nipissing	37,680.0	565	not applicable		
OCAD	12,787.5	192	86	44.7	*56.2*
Ottawa	246,186.6	3,693	893	24.2	*27.5*
Queen's	296,130.8	4,442	2,694	60.7	*74.8*
Ryerson	149,659.8	2,245	2,547	113.4	*116.7*
Toronto (St. Grge)	631,708.8	9,476	7,943	83.8	*89.1*
Toronto (Miss)	62,522.9	938	697	74.3	*87.3*
Toronto (Scar)	44,458.9	667	1,080	161.9	*167.6*
Trent	59,098.6	886	423	47.7	*68.6*
Waterloo	303,642.3	4,555	6,087	133.6	*125.8*
Western	373,565.0	5,603	5,891	105.1	*110.4*
Wilfrid Laurier	101,555.5	1,523	1,087	71.4	*86.2*
Windsor	134,800.0	2,022	1,909	94.4	*91.0*
York (Keele)	274,245.0	4,114	3,840	93.3	*89.4*
York (Glen)	23,731.0	356	343	96.4	*96.3*
Total	3,826,372.9	57,396	51,641	90.0	*97.3*

Input Measure: Total NASM Inventory (excluding 16.0 Non-Assignable).

Space Factor: 0.015 NASM

System Average: 0.013 NASM
(Total Actual Maintenance space divided by Total NASM Inventory.)

Table 36

Student and Central Services Space (7-8, 11-15 (excluding 12.3)): Generated Space and Inventory, 2001-02

	FTE Students	Generated Space	Inventory NASM	Inventory / FTE Students	% I/G	*1998-99 % I/G*
Brock	9,453.9	18,908	9,832	1.0	52.0	*61.0*
Carleton	14,660.7	29,321	16,825	1.1	57.4	*69.9*
Guelph	14,546.1	29,092	20,005	1.4	68.8	*85.2*
Lakehead	5,353.6	10,707	9,528	1.8	89.0	*84.5*
Laurentian	4,521.2	9,042	10,995	2.4	121.6	*130.0*
Laurentian (Algo)	674.3	1,349	1,234	1.8	91.5	*153.3*
Laurentian (Hear)	105.6	211	946	9.0	448.1	*452.9*
McMaster	15,817.7	31,635	21,093	1.3	66.7	*78.4*
Nipissing	2,526.0	5,052	2,443	1.0	48.4	*53.1*
OCAD	2,049.2	4,098	1,394	0.7	34.0	*33.2*
Ottawa	21,037.0	42,074	21,740	1.0	51.7	*52.4*
Queen's	15,964.4	31,929	27,409	1.7	85.8	*94.9*
Ryerson	16,556.8	33,114	15,353	0.9	46.4	*62.8*
Toronto (St. Grge)	36,824.5	73,649	54,161	1.5	73.5	*83.0*
Toronto (Miss)	5,137.6	10,275	6,809	1.3	66.3	*74.0*
Toronto (Scar)	4,974.9	9,950	5,246	1.1	52.7	*61.7*
Trent	4,592.9	9,186	6,041	1.3	65.8	*94.0*
Waterloo	16,734.3	33,469	30,967	1.9	92.5	*111.0*
Western	26,252.6	52,505	34,358	1.3	65.4	*74.0*
Wilfrid Laurier	8,805.0	17,610	12,104	1.4	68.7	*87.6*
Windsor	11,028.9	22,058	17,258	1.6	78.2	*90.3*
York (Keele)	29,282.0	58,564	30,879	1.1	52.7	*58.4*
York (Glen)	1,382.0	2,764	3,343	2.4	120.9	*125.5*
Total	268,281.2	536,562	359,964	1.3	67.1	*77.5*

Input Measure: Total FTE Students (as defined in Appendix D).

Space Factor: 2.0 NASM

System Average: 1.34 NASM per FTE Student.
(A rounded total of recommended space factor ranges for the actual individual student central services categories divided by Total FTE Students.)

Table 37

Total Space (1-15): Generated Space and Inventory, 2001-02

	FTE Students	Generated Space	Generated per FTE	Inventory NASM	Inventory per FTE	% I/G	*1998-99 I/G*
Brock	9,453.9	92,956.3	9.8	60,881	6.4	65.5	*69.3*
Carleton	14,660.7	162,668.0	11.1	121,602	8.3	74.8	*81.8*
Guelph	14,546.1	211,065.7	14.5	190,257	13.1	90.1	*95.2*
Lakehead	5,353.6	65,863.5	12.3	54,363	10.2	82.5	*79.6*
Laurentian	4,521.2	60,264.3	13.3	61,864	13.7	102.7	*106.4*
Laurentian (Algo)	674.3	9,110.6	13.5	10,812	16.0	118.7	*123.2*
Laurentian (Hear)	105.6	4,909.5	46.5	3,828	36.3	78.0	*102.7*
McMaster	15,817.7	222,036.4	14.0	182,602	11.5	82.2	*89.3*
Nipissing	2,526.0	31,597.7	12.5	15,582	6.2	49.3	*43.1*
OCAD	2,049.2	29,715.6	14.5	12,713	6.2	42.8	*37.9*
Ottawa	21,037.0	245,505.8	11.7	182,890	8.7	74.5	*78.1*
Queen's	15,964.4	230,886.1	14.5	210,804	13.2	91.3	*100.7*
Ryerson	16,556.8	161,199.4	9.7	106,528	6.4	66.1	*72.8*
Toronto (St. Grge)	36,824.5	566,722.5	15.4	474,764	12.9	83.8	*92.9*
Toronto (Miss)	5,137.6	48,452.8	9.4	39,355	7.7	81.2	*91.2*
Toronto (Scar)	4,974.9	44,096.0	8.9	32,797	6.6	74.4	*82.5*
Trent	4,592.9	55,470.1	12.1	37,813	8.2	68.2	*78.9*
Waterloo	16,734.3	240,553.1	14.4	196,526	11.7	81.7	*100.2*
Western	26,252.6	345,215.8	13.1	253,215	9.6	73.3	*81.3*
Wilfrid Laurier	8,805.0	80,713.9	9.2	58,411	6.6	72.4	*85.1*
Windsor	11,028.9	127,394.9	11.6	109,929	10.0	86.3	*100.2*
York (Keele)	29,282.0	288,082.4	9.8	180,435	6.2	62.6	*68.8*
York (Glen)	1,382.0	16,277.7	11.8	15,585	11.3	95.7	*96.0*
Total	268,281.2	3,340,758.1	12.5	2,613,557	9.7	78.2	*86.0*

A comparison of the Total Generated Space and existing Inventory in categories 1 through 15 per FTE Student.

Section 5

APPENDICES

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Appendix A: Space Classification Scheme, Formula and Measures

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Category 1: CLASSROOM FACILITIES

Definition

A room primarily used for scheduled teaching purposes that do not require special equipment of a kind that makes the room unsuitable for classroom instruction (i.e., laboratory benches) and rooms directly serving such facilities.

Subcategories

1.1 Tiered Classrooms

Tiered or sloped-floored lecture theatres, lecture rooms, lecture demonstration rooms, and classrooms.

1.2 Non-Tiered Classrooms

Flat-floored lecture rooms, classrooms, seminar rooms, and tutorial rooms.

1.3 Classroom Service Space

Examination rooms, projection rooms, preparation rooms, closets, storage rooms, and other related areas.

Formula

The formula for generating classroom facilities including service space is as follows:

# of FTE Students x 1.23 NASM

(The FTE count is consistent with the numbers reported in the USIS-UAR submission as of November 1.)

Formula Assumptions

The demand for space is proportional to the number of courses those students enrol in, multiplied by the number of hours per week of scheduled instruction that each course requires for academic credit. The unit of measurement is usually referred to as a weekly student contact hour (WSCH). The amount of space required to accommodate one WSCH is derived from three separate variables. These are:

A (Area) = 1.7 NASM
Average university classroom station size
The area (A) required for a single seat or desk, expressed in square metres. This value varies according to the type of furniture used. An average value was chosen to represent a mix of classroom types and a provision for classroom service space.

H = 30 to 34 hours per week
Room utilization standard for a room Monday – Friday, during a 57 hour week
The number of hours per week (H) that a classroom is expected to be used for scheduled instruction. This range represents a minimum utilization standard that will vary by room type, use, and program.
The number of hours increased from 45 to 57 hours per week to include 4 three-hour evening sessions per week.

S = 0.74 to 0.65 (i.e., 74% to 65% seats occupied when the room is used)
Station utilization standard when room is used.
The percentage of seats that are occupied (S) when the room is in use.

The product of the room utilization standard (H) and station weight (S) should produce a combined utilization co-efficient of 22.1. Therefore, H could be 30 and S could be 74%, or H could be 34 and S could be 65%. The classroom space formula is:

$$NASM / WSCH = A / (H \times S)$$

Assuming that the average weekly student contact hours is 16 hours (non-laboratory), that the A (area) value is 1.7, and that the H and S values are 34 and 0.65 respectively, then the space factor computed via formula is 1.23 NASM.

$$NASM / FTE\ Student = \frac{1.7}{34 \times .65} \times 16\ hours = 1.23\ NASM$$

Comments

While the total amount of classroom space generated using the COU space factor is considered adequate, mismatches between class section size and the size of available classrooms are problems on many campuses.

Commencing with the 2001 report, the assumptions used in the classroom input measure were updated to reflect the way students are taught today. A classroom survey conducted in 1999 indicated that the station size needed to be increased from 1.4 NASM to 1.7 NASM. Also, following an examination of utilization rates, station occupancy was increased from 62% to 65% and the number of hours per week that a classroom is expected to be used was increased from 30 to 34 hours. These changes support findings reported in the 1988-89 joint COU – "Ontario Ministry" Working Group on University Space Utilization report entitled ***Classroom Space Utilization in Ontario Universities 1988-89***.

Comparison of Unadjusted Standards / Guidelines for Classrooms (1999)

State	Hours/Week	Station Occupancy (%)	Area (NASF)
Alaska	30.0	60.0	16.0
Arizona	35.0	65.0	19.0
California	42.0	71.4	15.0
Colorado	30.0	67.0	15.0
Florida	40.0	60.0	22.0
Kansas	30.0	60.0	15.0
Kentucky	38.0	67.0	20.0
Louisiana	30.0	60.0	18.0
Maryland	30.0	70.0	17.6
Nebraska	30.0	65.0	16.0
New Hampshire	30.0	60.0	16.0
New York	30.0	60.0	20.0
North Carolina	35.0	65.0	18.0
Ohio	31.5	67.0	15.0
Oklahoma (3 terms)	60.0	80.0	16.0
Oregon	33.0	60.0	16.0
Tennessee	30.0	67.0	15.0
South Carolina	35.0	60.0	21.0
South Dakota	30.0	60.0	16.0
Texas	38.0	66.7	
Utah	34.0	66.7	17.0
Wisconsin	30.0	67.0	16.0
Wyoming	33.0	60.0	18.0
Ontario	34.0	65.0	18.3

Source: Survey of Space and Utilization Guidelines and Standards in the Fifty States. MGT Consultants. Exhibit 1.

Category 2: LABORATORY – UNDERGRADUATE

Definition

A room used for instruction of undergraduate students that requires special purpose equipment or is so arranged that use is restricted to a particular field of study; and rooms directly serving these facilities. Activities in these facilities would include student participation, experimentation, observation or practice in a field of study.

Subcategories

2.1 Scheduled Class Laboratory Space

Teaching laboratories, special subject rooms, instructional shops, drafting, art, dance and music studios, music practice rooms, language laboratories, and athletic facilities primarily used for instruction, and other specially designed rooms largely used for scheduled instruction, such as dental, rehabilitation, and psychology clinics.

2.2 Unscheduled Class Laboratory Space

This subcategory may be optionally used to classify general workrooms, drafting rooms, and other special-purpose facilities generally used for informal or irregularly scheduled instruction, or for practice.

2.3 Laboratory (Instructional) Support

Preparation rooms, balance rooms, laboratory storage rooms, demonstration rooms, animal areas, greenhouses, dark rooms, etc. directly serving the laboratory facilities.

Formula

The formula for generating undergraduate teaching facilities (including service space) is a four part formula with a different space factor for each of four academic program groupings:

Laboratory space for specific group (W, X, Y, Z)	=	WSLabCH for group	x	Space factor for group (0.8, 0.6, 0.5, 0.3)

WSLabCH (i.e. **W**eekly Student **Lab**oratory **C**ontact **H**ours) is the input measure for this category. They are computed as the product of the course enrolment and the hours of scheduled instruction received by each student enrolled during a typical academic week.

Formula Assumptions

The instructional laboratory formula is based on the following assumptions:

- It is recognized that there are differences in space requirements between disciplines; consequently four space standards, dependent upon discipline groups (denoted W, X, Y, Z) are used.
  Examples of disciplines: Group W: Agriculture, Engineering, Vet. Medicine
  Group X: Chemistry, Fine Arts, Geology
  Group Y: Anthropology, Geography, Psychology
  Group Z: Commerce, Mathematics, Sociology

- Station areas associated with the groups W, X, Y and Z were derived over time from data reported by the universities in the Ontario system together with standards used in other jurisdictions. The space factors are based on bench areas and facilities needs for the different disciplines. They include an allowance for preparation and storage space requirements.

- Space guidelines for teaching laboratories include a room utilization of 18 hours per week and 75% seat occupancy when in use. The relationship between the variables is described in the following table:

Group	Station Area (NASM) (incl. Service Space)	Utilization Rate Hours x Seat Util.	Space Factor NASM/ WSLabCH
W	10.80	18 x 0.75 = 13.5	0.8
X	8.10	18 x 0.75 = 13.5	0.6
Y	6.75	18 x 0.75 = 13.5	0.5
Z	4.05	18 x 0.75 = 13.5	0.3

$$\text{NASM per WSLabCH} = \frac{\text{Area per Station}}{\text{Scheduled Hours per Week} \times \text{Seat Utilization}}$$

Comments

The university timetable should be the primary source for deriving WSLabCH, augmented if needed by information in the university calendar.

There is unscheduled activity by groups or individuals for study or experimentation related to course work and assignments used for scheduled teaching and in other specially designed labs. However, this unscheduled use of labs is to be excluded from the contact hour count when determining laboratory facilities entitlement. It is assumed that the use of scheduled contact hours combined with an 18-hour room utilization rate will generate enough space to adequately accommodate these activities in the unscheduled hours.

For class labs that meet in multiple-use facilities, for example, in theatres used for both drama instruction and general university assembly, it may be necessary to prorate.

Comparison of Unadjusted Teaching Lab Standards / Guidelines (1999)

State	Contact Hours / Week	Station Occupancy (%)
Alaska	20.0	80.0
Arizona	25.0	85.0
California	25.0	80.0
Colorado	20.0	80.0
Florida	20.0	80.0
Kansas	20.0	80.0
Kentucky	23.0	80.0
Louisiana	20.0	80.0
Maryland	21.0	78.7
Nebraska	20.0	65.0
New Hampshire	18.0	70.0
New York	22.0	75.0
North Carolina	20.0	75.0
Ohio	22.5	80.0
Oklahoma	48.0	80.0
Oregon	16.0	75.0
Pennsylvania	26.0 / 24.0	80.0
South Carolina	16.0 / 18.0	75.0
Tennessee	18.0	80.0
South Dakota	20.0	85.0
Texas	25.0	80.0
Utah	22.5	80.0
Washington	20.0	80.0
Wisconsin	24.0	80.0
Wyoming	20.0	75.0
Ontario	18.0	75.0

Source: Survey of Space and Utilization Guidelines and Standards in the Fifty States. MGT Consultants. Exhibit 2.

Category 3: RESEARCH LABORATORY SPACE (Graduate & Faculty)

Definition

A room used for laboratory applications, research or training in research methodology that requires special-purpose equipment for staff or graduate student experimentation or observation, and preparation, service, and other rooms directly serving these facilities.

Subcategory

3.1 Laboratory Space

Faculty, graduate, and general research facilities.

3.2 Laboratory (faculty and graduate) Support Space

Rooms directly serving one or more research facilities that directly provide the necessary support to the research functions such as balance rooms, coat rooms, storage areas, dark rooms, technicians' office/workrooms, workshops, animal areas, and greenhouses.

Formula

The formula for generating research laboratory facilities (including service space) is a five part formula with a different space factor for each of five academic program groupings:

Research space for specific group (Group A, B, C, D, E)	=	Count	x	Space Factor for group (45, 30, 20, 10, 1)

where COUNT = # FTE Faculty + (50% # other research appointments) + (50% # FTE graduate students)

Formula Assumptions

- It is recognized that there are differences in space requirements between disciplines; consequently, five space standards (denoted A, B, C, D, and E) are used.

  Examples of disciplines:

Group A	Chemistry, Dentistry, Geology
Group B	Civil Engineering, Forestry, Metallurgy
Group C	Anthropology, Electrical Engineering, Geography (Physical)
Group D	Geography (Human), Kinesiology, Library Science
Group E	English, Mathematics, Sociology

- Station areas (i.e. space factors) associated with the groups A, B, C, D, and E were derived over time from data reported by the universities in the Ontario system together with standards from other jurisdictions.

- The formula assumes a direct relationship, which is consistent throughout all disciplines within an academic grouping, between the numbers of faculty, other researchers and graduate students associated with a department and the amount of research being done by that department.

Comments

Group E generates 1 NASM per Input Measure to provide some research or equivalent to research space that may be allocated as additional computer or other dedicated work space for use by academic departments.

Some universities have large research facilities that are used by other universities or non-university researchers. In the reporting of the inventory, this space should be pro-rated, with the portion used for non-institutional purposes classified in Category 19.

Category 4: ACADEMIC DEPARTMENTAL OFFICES AND RELATED SPACE

Definition

A room usually assigned to one or more individuals on a permanent basis, containing office-type equipment and used by faculty, departmental administrative and support staff, and students, or a room directly serving these facilities.

Subcategories

4.1 Faculty Offices

Single or multiple-occupancy offices for teaching and research faculty with rank up to and including department chairs, deans, vice deans and associate deans including their immediate support personnel.

4.2 Other Academic Appointments Offices

Office space used by post-doctoral fellows, visiting professors, adjuncts and other equivalent to faculty research staff, not holding a regular faculty appointment.

4.3 Graduate Student Offices

Single or multiple-occupancy rooms assigned to graduate students for study and to graduate and undergraduate students in their capacity as tutors, teaching or research assistants.

4.4 Departmental Support Staff Offices

Office space used by demonstrators, technicians, other professional staff, administrative, clerical and secretarial support staff to academic departments.

4.5 Office Support Space

Rooms directly serving office space in this category such as conference rooms, computer rooms not for student use, special reference libraries, file rooms, vaults, photocopy rooms, waiting and reception areas, interview rooms, storage areas, private toilets, lunchrooms, and private departmental lounges.

Formula

The formula for generating academic departmental office facilities has four components:

Faculty	((# FTE Faculty + 15%) + Other Research Appointments) X 13 NASM
Non-Academic Staff	# FTE Non-Academic Staff requiring offices X 13 NASM
Graduate Students	# FTE Graduate Students X 4 NASM
Office Support Space	30% of the total space generated for faculty, administrative staff and graduate students

Formula Assumptions

In recognition of the disparity between the FTE faculty count of an institution and the requirement to provide some office accommodation to other academics who would not be fully represented by the FTE count (cross-appointments, part-time appointments, professors emeriti, status only appointments, visiting scholars, stipend staff, faculty on sabbaticals who remain on campus, etc.), the FTE faculty input measure is supplemented by 15%. Commencing with the 2001 report, the FTE count for Other Research Appointments have been added to the Input Measure for the faculty supplement.

Although 12 NASM is the accepted planning standard for a typical single office, a space factor of 13 NASM is used in the formula - to recognize existing office configurations, especially in older university buildings, where the average office size is larger. Further, it is recognized that deans and chairs are usually allocated larger offices than the average.

The standard for non-academic staff offices is based on the same average office size used for academic staff. Although the layout of the spaces may be different, it is assumed that the requirement for space is the same. Library staff and staff of ancillary units are excluded from the FTE count as their office/work space is inventories in other categories.

The graduate student office standard is based on the assumption that all graduate students generate office type space. This is in addition to the space they generate in the research laboratory category and the library category.

The requirement for office support space is directly related to the number of faculty, staff and graduate students in an institution.

That 30% of the total entitlement for office facilities represents an average across all departments.

The space generated under the formula is to accommodate a wide range of activities from photocopiers and file storage to conference rooms, departmental lounges, and resource rooms.

Comments

Many older buildings in the Ontario system have been built with larger offices than the standard. For these institutions, the total amount of space inventoried when measured against the space generated by the formula may appear adequate but there will be too few office units. A 1987 analysis of inventory in the office subcategories showed an average office size of 14.1 NASM per FTE faculty and 13.5 NASM for all individuals needing offices.

Library office space is not included in this category because it is often difficult to distinguish what area is strictly office space and what area is library service for referencing, cataloguing and distributing books. The library service space formula covers this requirement.

There is not yet enough empirical evidence to incorporate additional computing space in the office standards.

Non-academic office space is calculated based on the FTE of non-academic staff as the institutional ratios of non-academic staff to faculty (and students) are quite variable.

FTE faculty and student data are readily collectible and verifiable but there is no equivalent data base for non-academic staff. There is a need to improve the collection of non-academic staff data at the system level.

The 13 NASM standard for offices is consistent with the Ontario government office space allowance for professional staff (i.e. 13.5 NASM).

The provision of offices for graduate students is a matter of institutional policy; in some cases only doctoral students or teaching assistants are assigned office space.

Category 5: CAMPUS STUDY SPACE & LIBRARY FACILITIES

Definition

A room or group of rooms used for the acquisition, processing, storage, circulation, study, or use of books, periodicals, manuscripts and other media of published information not necessarily under the administration of the university library system and accessible to the university population at large and rooms directly serving these facilities.

Subcategories

5.1 Library Collection Space

Stack and storage areas for books, archives, maps, documents, records, tapes, slides, micromaterials, periodicals, and music scores.

5.2 Study Space

Reading rooms, study carrels, open-stack reading rooms, and study areas available to the general university population. Study area rooms located in facilities administered by the university library system or in residences or academic departments.

5.3 Library Support Areas

Office and related areas for library administration, catalogue area, circulation desk, processing areas, bookbinding and repair areas, acquisition and cataloguing work areas, and library staff lounges.

5.4 Computer-Equipped Study Space (previously reported under 12.3 Student Computer Rooms)

Electronically equipped computer rooms available for students for non-scheduled study. Included in this subcategory is space located within the library and space not located in the library.

Equivalent Volumes

An equivalent volume represents one bound volume. Other library materials are converted into bound volumes. Materials are given in terms of 125 bound volumes, since 125 bound volumes represents a standard stack – a single faced section with dimensions approximately 7.5 feet high, with seven (7) shelves, 3 feet wide.

Material	Items	Units	Equivalency
Monograph Volumes – excluding Reference	125	# volumes	125
Reference	45	# volumes	125
Documents and Technical Reports	650	# reports	125
Archival Materials	6.4	linear metres	125
Serial Volumes - bound	50	paper copy	125
Serial Volumes - unbound	50	paper copy	125
Maps	400	# sheets	125
Microfilm	250	# reels	125
Microfiche	10,500	# items	125
CD-ROM	575	# titles	125
Floppy Disks	1.925	# units	125
Magnetic Tape	125	# units	125
Learning Kits	45	# items	125
Audio-Visual Holdings	125	# titles	125
Slides	5,040	# slides	125
Printed Music	275	# scores	125

Source: Collaboration between the Ontario Council of Universities Libraries (OCUL) and COU Committee on Space Standards and Reporting. See Council of Ontario Universities' Users Guide page 2.4.3.4 for more details.

Formula: Study Space

The formula for generating study space is:

0.5 NASM / FFTE undergraduate student

1.0 NASM / FFTE professional undergraduate student

0.7 NASM / FTE graduate student

Formula Assumptions

The formula assumes a carrel size of 1.85 NASM and enough carrels to accommodate 25% of the undergraduate population *(1.85 x 0.25 = .46 NASM/undergraduate)* and 40% of the graduate population *(1.85 x 0.40 = .7 NASM/graduate student).* In professional programs where study habits require a larger carrel, 2.78 NASM for 40% of the population is assumed *(2.78 x 0.4 = 1.11 NASM/professional undergraduate).*

Note: these numbers were originally in imperial measure and were rounded in conversion to metric.

Formula: Computer Study Space

The formula for generating computer study space is:

0.08 NASM / FFTE undergraduate student

Formula Assumptions

The space factor used is an average of the actual data received from the institutions for the 2001 Inventory of Physical Facilities of Ontario Universities report. This is an emerging category and therefore the space factor may change in future years.

Formula: Library Collection Space (Stack)

The formula for generating space for library collections is as follows:

For compact storage:

0.004 NASM per equivalent volume for 10% of total collection

For remainder of collection:

0.007 NASM per equivalent volume for next 300,000 volumes

0.006 NASM per equivalent volume for next 300,000 volumes

0.005 NASM per equivalent volume for remainder of collection

Formula Assumptions

The collection space formula assumes that 125 bound volumes can be shelved on a standard stack unit, leaving 15% of the shelf space for sorting books when they are returned to the shelves. A standard stack is 2.28 m. high, 0.91 m. wide, 0.25 m. deep, and has 7 shelves. In Volume 6 of *Building Blocks*, it was determined that a standard stack unit occupied approximately 0.75 NASM, allowing approximately 1.1 m. for an aisle space. Therefore, one (1) volume would require 0.0059 NASM. The formula also assumes that 10% of a collection will be housed in compact storage. An allowance of 0.004 NASM per volume assumes an increase in density by approximately 66% to 207 volumes per standard shelving unit.

Formula: Library Support Areas

The formula for generating space for library service and support space is as follows:

0.25 x (area generated for Stack and Study space)

Formula Assumptions

The library support formula is based on the following assumption:

> The size of the collection and number of users are the two most significant factors affecting the number of staff required to assist in the circulation and handling of books, periodicals and other media of published information. The standard for support space has been used, therefore, on a fixed percentage of collection size and user population (the average was 25%).

Comments

The volume equivalencies were revised in 1995 by the Ontario Council of University Libraries (OCUL).

It is recognized that some efficiencies can be achieved through the use of compact storage.

Stack space may appear to exceed the standards if service space and non-assignable space such as phantom fire corridors are not reported as defined.

Graduate students also generate space in the office and research laboratory categories.

A trade-off between Stack and Study space is increasingly a part of library space management.

Category 6: ATHLETIC / RECREATION SPACE

Definition

All indoor areas used by students, staff, or the public for athletic activities, either for recreational or competitive purposes, and rooms directly serving these facilities.

Subcategories

6.1 Athletic Activity Areas

Gymnasia, dance studios, swimming pools, basketball, handball and squash courts, combative rooms, ice rinks, indoor tracks, indoor rifle and archery ranges, and activity areas including those within field houses.

6.2 Athletic Seating Areas

All permanent seating and observation areas in gymnasia, swimming pools, field houses, ice rinks, and other indoor activity areas.

6.3 Athletic Service Space

All ancillary areas directly serving the above such as locker rooms, shower rooms, washrooms, coaches' rooms, equipment supply rooms, and rooms serving athletic facilities.

Formula

0.9 NASM / FTE student, plus

2,000 NASM for institutions with less than 4,000 students

1,000 NASM for institutions with 4,000 to 8,000 students

Formula Assumptions

The space factor for recreation and athletic facilities assumes that the FTE student population is the primary user. The actual factor is derived from institutional averages. A sliding scale approach is used to ensure that smaller institutions generate sufficient space to cover a building of 4,000 NASM, the minimum area feasible to accommodate a pool, gymnasium and support space.

Comments

Assessing the adequacy of athletics and recreation space is a complex matter. Institutions are quite diverse in the match between generated space and inventories. Requirements for athletic and recreation space vary according to an institution's commitment to interuniversity athletics, the recreational interests of its students, the proportion of students in residence, the availability of other facilities in the community, and the mix of extracurricular activities with academic programs in Physical Education and related disciplines.

There may be errors in the reporting of athletics inventory that is primarily for community or academic program use. The definitions are clarified so that any specialized space used exclusively or almost exclusively for academic programs is reported in the class lab category.

Category 9: PLANT MAINTENANCE

Definition

Space associated with the operation and maintenance of university buildings, grounds, vehicles and other elements of the physical plant.

Subcategory

9.1 Plant Maintenance

Shops and storage areas for carpentry, plumbing, painting, electrical and other trades, lunch, locker and change rooms for maintenance and custodial staff, garages for maintenance vehicles and all ground equipment, greenhouses and related areas, and garages for storage and repair of vehicles and boats.

Formula

1.5% x Physical Plant Net Assignable Area *

* which is the sum of NASM categories 1-15 and 17-20

Category 10: ADMINISTRATIVE OFFICE AND RELATED SPACE

Definition

A room usually assigned to one or more individuals on a permanent basis containing office-type equipment and used by administrative and support staff, or a room directly serving these facilities.

Subcategories

10.1 Office Areas

Single or multiple-occupancy rooms for executives, administrative staff, and directors of major academic divisions.

10.2 Office Support Space

Rooms directly serving office space in this category such as conference rooms, special reference libraries, file rooms, vaults, photocopy rooms, computer rooms for administrative use, waiting and receptions areas, interview rooms, storage areas, private toilets, lunch rooms and private departmental lounges.

Formula

The formula for generating administrative office facilities has two components:

Offices:	# FTE Non-Academic Staff requiring offices x 13 NASM
Office Support Space:	30% of the total space generated for the Non-Academic Staff

Formula Assumption

The requirement for office support space is directly related to the number of non-academic staff requiring offices. Thirty percent of the total entitlement for office facilities represents an average across all departments. The space generated under the formula is to accommodate a wide range of activities from photocopiers and file storage to conference rooms, departmental lounges and resource rooms.

Categories 7, 8, 11, 12, 13, 14, 15: STUDENT AND CENTRAL SERVICES

Definition

Food services, bookstore and other merchandising facilities, audiovisual / television facilities, central services, health service facilities, common use and study activity space, and assembly & exhibition facilities have been combined into Student and Central Services for the purpose of calculating space entitlement. This allows an institution to trade off a need for facilities in one area with those in a related category.

Formula

FTE x 2.0 NASM

The following range of values are suggested for each category, which reflect the use of space in the Ontario universities:

Category #	Category Name	NASM / FTE student
7	Food Service	0.50 to 0.70
8	Bookstore and Other Merchandising Facilities	0.10 to 0.20
11	Audiovisual / Television Facilities	0.05 to 0.10
12	Central Services	0.10 to 0.30
13	Health Service Facilities	0.03 to 0.05
14	Student Activity Space	0.50 to 0.70
15	Assembly and Exhibition Facilities	0.15 to 0.40

Category 7: FOOD SERVICE

Definition

A room or group of rooms that are used for preparing or eating food or that directly serve these facilities including central facilities located in residences and faculty clubs, whether operated by the university or an external company.

Subcategories

7.1 Food Facilities

Dining rooms, cafeterias, snack bars, coffee shops, restaurants, vending machine and other refreshment areas primarily used for food service.

7.2 Food Facilities Service

Kitchen, servery, all food preparation areas, dishwashing areas, refrigeration and freezer rooms, kitchen storage rooms, receiving areas, refuse areas, and staff lunch, locker and private washrooms.

Category 8: BOOKSTORE AND OTHER MERCHANDISING FACILITIES

Definition

A room or group of rooms used to sell products or services, exclusively or primarily for the university population, and rooms directly serving these facilities.

Subcategory

8.1 Bookstore / Merchandising

For example: bookstores, Canada Post office, banks, travel agencies, other stores and associated service space operated by the university or commercial enterprise renting space from the university. Includes staff offices in support of these functions.

Category 11: AUDIOVISUAL / TELEVISION FACILITIES

Definition

A room or group of rooms used in the production, distribution and storage of non-print instructional media, and rooms directly serving these facilities, providing campus-wide rather than exclusively departmental services.

Subcategory

11.1 AV / TV Facilities

Radio, TV, sound, photography, and graphic studios, film and tape libraries, control rooms, storage rooms, recording rooms, repair and servicing work rooms, dark rooms, preparation rooms, and similar related areas.

Category 12: CENTRAL SERVICES

Definition

A room or group of rooms used to provide campus-wide services for both academic and non-academic sections of the university, and rooms directly serving these facilities.

Subcategories

12.1 Computing Facilities

Central data processing facilities, computer rooms, technical service and repair areas and their support spaces.

12.2 Other Central Services

Central and regional printing and duplicating shops, central receiving areas, central stores, university mail rooms, laundry and drying rooms located in a central laundry, and technical service and repair areas.

~~*12.3 Student Computer Rooms*~~
This section is now reported under category 5.4 Computer-Equipped Study Space.

Category 13: HEALTH SERVICE FACILITIES

Definition

A room or group of rooms intended to supply health services primarily to the general university population, and rooms directly serving these physical and wellness services facilities

Subcategory

13.1 Health Service Facilities

Infirmaries, first aid rooms, physiotherapy rooms, doctors' offices / examining rooms, their support areas, offices and related areas within health service facilities, and first-aid rooms located elsewhere and used for the general university.

Category 14: COMMON USE AND STUDENT ACTIVITY SPACE

Definition

A room or group of rooms accessible to the general university population intended for recreation, rest, or relaxation, or rooms directly serving these facilities.

Subcategories

14.1 Student Offices and Support Space

Offices and support space for student government, publications, and clubs.

14.2 Recreational Facilities and Service

Bowling alleys, pool and billiard rooms, cinemas, television rooms, chess rooms, video games rooms, card playing areas, music listening areas, hobby rooms, storage and equipment issue rooms and pubs.

14.3 Lounge and Service Space

All general lounge space and kitchenettes, whether for students, faculty, or administrative staff, lounges in residences if available to non-residents, and lounges in faculty clubs, including related service space.

Category 15: ASSEMBLY AND EXHIBITION FACILITIES

Definition

A room or group of rooms intended to serve the general university population and to be used for dramatic, musical, or devotional activities or for exhibition purposes, and rooms directly serving these facilities.

Subcategories

15.1 Assembly Facilities

Theatres, auditoria, concert halls, chapels, and convocation halls and ancillary areas such as coat rooms, ticket booths, concession booths, dressing rooms, projection rooms, storage and control rooms.

15.2 Exhibition Facilities

Museums, art galleries, other exhibition areas, greenhouses used for display only and supporting areas.

Category 16: NON-ASSIGNABLE SPACE

Definition

A room or area that is not available for assignment to the occupants of a building but that is necessary for the general occupation or mechanical support of one or a number of buildings.

Subcategories

16.1 Central Utility Plant

All boiler rooms, refrigeration plant, electrical transformer stations, cooling towers, compressing stations, water treatment facilities, recycling facilities, hazardous waste storage, incinerator, distribution systems, service tunnels and their support areas serving more than one building or the entire campus.

16.2 Other Non-Assignable Areas

Areas used or occupied by janitorial staff (janitors' closets), mechanical and electrical spaces, and incinerator serving one building, and public washrooms.

Circulation spaces required to provide general access within a building (i.e. corridors, stairwells, elevators) to a single room or work area (including their integral support areas) e.g. circulation space is required to provide general access such as fire corridors in office landscaped areas, escape routes in warehousing areas or large congested machine shops, or routes necessary to provide physical access to some subdivision or block of space. Loading docks and service tunnels not assigned to a specific department.

16.3 Inactive Unassignable

Spaces which would require long lead time and extensive work to make them available for occupancy such as those left unfinished at the time of construction or those undergoing major repairs or renovations, i.e. large areas of the building being out of service for many months.

Category 17: RESIDENTIAL SPACE

Definition

A room or rooms used to accommodate one or more individuals and the ancillary areas in direct support of such rooms.

Subcategories

17.1 Residence Living Space

Single or multiple-occupancy bedrooms, apartments or other residential units (corridor).

17.2 Residence Service Space

Laundry rooms, recreational areas, music rooms, games rooms, locker rooms, lounges only available to occupants of that residence, tuck shops, washrooms in residential suites, and administrative offices in direct support of residential facilities.

Category 18: ANIMAL SPACE

Definition

Animal facilities in overall support of teaching or research and not normally integrated with or under the control of academic departments.

Subcategories

18.1 Specialized Central Areas

Rearing, conditioning, and holding facilities before animals are ready or required for teaching and research purposes as well as facilities for long-term holding and care of animals following surgical or other investigative treatment, located either on or off campus.

18.2 Farm-Type Areas

Barn structures, feed storage, and field service areas.

Category 19: OTHER UNIVERSITY FACILITIES

Definition

Any room or area not included in Categories 1 through 18.

Subcategories

19.1 Day Care Facilities

19.2 Rifle Ranges and Other Space in Support of Military Training

19.3 Merchandising Facilities Not Exclusively or Primarily Serving the University Population

19.4 Demonstration Schools, and Other Instructional Institutions for Non-University Students

19.5 Inactive Assignable Space

Spaces which are deemed to be available for immediate occupancy but which have not yet been assigned to individuals or groups.

19.6 Non-Institutional Agencies Occupying University Space

19.7 Instructional Service Activities to the External Community

19.8 Parking Structures

Category 20: HEALTH SCIENCE CLINICAL FACILITIES

Definition

Space owned or operated by the university that is used in direct support of instruction, research and service for clinical health science disciplines. Includes health care areas, such as patient bedrooms and bathrooms, nurses' stations, surgery, treatment rooms, waiting rooms and service and supply areas; all measures not included in Categories 1 – 15 of the space formula and for which capital funding responsibility is assumed to be that of the Ministry of Health.

	Space Category	Space Factor		Input Measure
1	Classroom Facilities	1.23 NASM		FTE Students
2	Laboratory - Undergraduate	Group W Group X Group Y Group Z	0.8 NASM 0.6 NASM 0.5 NASM 0.3 NASM	Weekly Student Laboratory Contact Hours
3	Research Laboratory	Group A Group B Group C Group D Group E	45 NASM 30 NASM 20 NASM 10 NASM 1 NASM	FTE Faculty + 0.5 Other Research Appointments + 0.5 Graduates
4	Academic Departmental Offices	13 NASM *(plus an additional allowance of 15% for academics not included in the faculty count)* 13 NASM 4 NASM		FTE Faculty FTE Other Research Appts FTE Graduate Students
5	Campus Study Space & Library Facilities			
	Study	0.5 NASM 1.0 NASM 0.7 NASM		FTE Undergraduate FTE Prof Undergrad FTE Grad. Student
	Student Computer Rooms	0.08 NASM		FTE Undergraduate
	Stack (Compact Storage)	0.004 NASM		Equivalent volumes (EV) for 10% of total collection
	Stack (remainder)	0.007 NASM 0.006 NASM 0.005 NASM		EV for 0-300,000 volumes. EV for next 300,000 volumes EV for rest of collection
	Service	*0.25 x (Stack and Study)*		

	Space Category	Space Factor	Input Measure
6	Recreation/Athletic Space	0.9 NASM *plus* - *2,000 NASM for institutions with less than 4,000 FTE* *1,000 NASM for institutions with 4,000 to 8,000 FTE*	FTE Student
9	Plant Maintenance	*0.015 x Total NASM Inventory*	
10	Administrative Offices	13 NASM	FTE Non-Academic Staff requiring offices
	Office Services	*0.3 x Total Generated Faculty, Graduate Students and Non-Academic Staff*	
	STUDENT & CENTRAL SERVICES	2 NASM	FTE Student
7	Food Service	0.5 to 0.7 NASM	FTE Student
8	Bookstore & Other. Merch. Facilities	0.1 to 2.0 NASM	FTE Student
11	Audiovisual/TV Facilities	0.05 to 0.35 NASM	FTE Student
12	Central Services (excluding 12.3)	2 NASM	FTE Student
13	Health Service Facilities	0.03 to 0.05 NASM	FTE Student
14	Common Use and Student Activity Space	0.5 to 0.7 NASM	FTE Student
15	Assembly and Exhibition	0.1 to 0.4 NASM	FTE Student

Appendix C
List of Input Measures

	Space Category	Input Measure
1	Classroom Facilities	FTE Students
2	Laboratory - Instructional	Scheduled Lab. Weekly Student Contact Hours
3	Laboratory - Graduate and Faculty	FTE Faculty Other Research Appointments FTE Graduate Students
4	Academic Departmental Offices	FTE Faculty FTE Other Research Appointments FTE Graduate Students FTE Non-Academic Office Staff requiring offices
5	Campus Study Space & Library Facilities	Library Collections (Equivalent Volumes) FTE Undergraduate Students FTE Graduate Students FTE Professional Students
6	Recreation / Athletic Space	FTE Students
7	Food Service	FTE Students
8	Bookstore & Other Merchandising Facilities	FTE Students
9	Plant Maintenance	Total Net Assignable Inventory (categories 1-15 and 17-20)
10	Administrative Offices	FTE Non-Academic Office Staff
11	Audiovisual Television Facilities	FTE Students
12	Central Services	FTE Students
13	Health Service Facilities	FTE Students
14	Common Use & Student Activity Space	FTE Students
15	Assembly and Exhibition Facilities	FTE Students

Building Blocks
Series of seven COU publications that were published between 1972 and 1988. These publications led to the development of the current COU space standards.

For a list of the publications, please see Appendix F.

Ontario Ministry
"Ontario Ministry" refers to the Ontario Ministry responsible for postsecondary education. Until February 1993, it was called Ministry of Colleges and Universities; from February 1993 until July 1999 it was called Ministry of Education and Training, and from July 1999 to present it is called Ministry of Training, Colleges and Universities.

Gross Area
The sum of the floor areas included within the outside faces of exterior walls for all stories, or areas, which have floor surfaces.

Net Assignable Square Metres (NASM)
The amount of area that can be used by the occupants of the building.
The sum of all areas on all floors of a building assigned to, or available for assignment to, an occupant, including every type of space functionally usable by an occupant (except Custodial, Circulation and Mechanical area).

Actual Space
This refers to the inventory of space reported by each institution.

Space Formula / Standards
A space standard is a common measurement that may be used to establish a goal for utilization, or allocation of space.

Space Factor
A space factor is a multiplier resulting from the interaction of standards used for a particular type of space.

Input Measure

Input Measures are used in the calculation of space requirements for the first 15 of the categories, for which quantitative space factors have been determined.
Input Measures include: student enrolment, faculty, research appointments, and non-academic staff full-time equivalent positions, laboratory contact hours, and equivalent volumes in the library calculations.

Generated Space

Generated space is the space the institution should have, based on the product of the input measure and the COU space factor for each space category.

Formula Space

Usable or assignable space for which space standards could normally be developed. The formula categories provide for the full range of functions and services needed in a contemporary university. There are 15 categories of formula space: classroom, undergraduate laboratory, research laboratory, academic offices, library, athletic, food services, bookstore, plant maintenance, administrative offices, AV/TV, central services, health services, student activity space and assembly space.

Non-Assignable Space

A room or area that is not available for assignment to the occupants of a building, but that is necessary for the general occupation or mechanical support of one or a number of buildings. This space is counted on category 16. For a more detailed definition, please see Appendix A: 16.0 Non-Assignable Space.

Non-Formula Space

These are highly specialized facilities generally of a unique nature. There are four (4) categories of non-formula space, which are reported under categories 17 through 20. They are: residence, animal space, other facilities and health science clinical facilities.

Total Net Assignable Inventory

All net assignable space inventory for Categories 1-20, excluding Category 16.

FTE Students

(1) FTE Undergraduate Students

The definitions for student enrolment currently contained in the MTCU Operating Formula Manual will govern the input measures as they pertain to students.

(2) FTE Graduate Students

See definition for FTE Undergraduate Students.

(3) Professional Students

Enrolments for professional programs are the count of students in post-baccalaureate programs leading to a professional degree.

NOTE: Affiliated institutions (both Arts & Science and Theological) are included as of November 1, 1992.

Laboratory Weekly Student Contact Hour

The total weekly-student-contact-hours of laboratory instruction offered by a university as part of a program of studies leading to a degree or diploma. The contact hours are computed as the product of the course enrolment and the hours of scheduled instruction received by each enrolled student during a typical academic week.

Laboratory weekly-student-contact-hours of laboratory instruction pertains to those contact hours of courses or portions of courses in which the instructional activity is facilitated by demonstration or experimentation requiring additional equipment not ordinarily available in classrooms.

A contact hour is the time that the instructor of the course (or lab assistant) is supervising a formal laboratory session in a specialized teaching facility.

Library Collections (Equivalent Volumes)

The library materials identified in the university library catalogue are to be included.

Equivalent volumes

An equivalent volume represents one bound volume. Other library materials, including media storage units, are converted into bound volumes.

The volume equivalencies and categories of library material were reviewed and updated in consultation with the Ontario Council of Universities Libraries (OCUL) in September 1995. The categories are similar to that reported by OCUL.

For details of volume equivalencies see Appendix A (Category 5: Library Facilities and Study Space).

FTE Faculty

The university's faculty count is to include all persons, up to and including department heads or chairs, holding an academic appointment and involved in teaching, who receive remuneration via the university from all salary funding sources.

Other Research Appointments (FTE)

Generators of research who are not regular faculty as defined in FTE Faculty, but who have similar research space requirements. This category includes post-doctoral fellows at any salary, and other equivalent-to-faculty research appointments, only if the annualized salary paid via the university (irrespective of funding source) is equal to or higher than the floor of the assistant professor range at that institution.

Research appointments located under category 20 (Health Science Clinical Facilities) are excluded.

FTE Non-Academic Office Staff

The full-time equivalent of all filled established positions for *secretarial, clerical, professional and management staff* with appointments of at least three months' duration as of 1 October. This will include non-academic office staff in teaching and research units, central computing and data processing, physical planning and plant operations, student services, academic services and administration, not included in other categories.

COU space standards make use of program or discipline groups in the generation of instructional labs and research space.

Code	Program/Discipline	Category 2 Group W - Z	Category 3 Group A - E
1.00	EDUCATION		
1.18	Elementary/Secondary Teacher Training	Y	E
1.23	Higher Education, Postsecondary Teacher Training	Y	E
1.36	Kindergarten, Pre-School Teacher Training	Y	E
1.38	Non-Teaching Fields	Y	E
1.39	Physical Education	Y	D
1.40	Kinesiology, Human Kinetics and Kinanthropology	Y	D
1.41	Recreation	Y	E
1.99	Other, not elsewhere specified	Y	E
2.00	FINE AND APPLIED ARTS		
2.03	Fine Art	X	D
	Visual Arts		C
	Fine Arts, Art Conservation		D
2.05	Music	X	E
2.08	Other Performing Arts	X	E
2.14	Applied Arts (eg. Industrial Design, Design)	X	E
2.99	Other, not elsewhere specified	X	E
3.00	HUMANITIES AND RELATED		
3.03	Classics, Classical and Dead Languages	Z	E
3.05	English Language and/or Literature	Z	E
3.06	French Language and/or Literature	Z	E
3.09	History	Z	E
3.10	Journalism	Z	E
3.11	Languages and/or Literatures, Other	Z	E
3.12	Library Science	Z	E
3.13	Other Records Science	Z	D
3.14	Linguistics	Z	E
3.17	Other Mass Communication Studies	Z	E
3.21	Philosophy	Z	E
3.24	Religious Studies	Z	E
3.25	Theological Studies	Z	E
3.27	Translation and Interpretation	Z	E
3.99	Other, not elsewhere specified	Z	E

** Changes to category groupings in bold.

Code	Program/Discipline	Category 2 Group W - Z	Category 3 Group A - E
4.00	SOCIAL SCIENCES AND RELATED		
4.03	Anthropology	Y	D
4.06	Archaeology	Y	D
4.08	Canadian Studies	Z	E
4.09	Area Studies, Other	Z	E
4.12	Commerce, Management, Business Administration	Z	E
4.13	Criminology	Z	E
4.14	Specialized Administration Studies	Z	E
4.15	Demography	Y	D
4.27	Economics	Z	E
4.30	Geography	Y	D
	Physical Geography	Y	C
	Human Geography	Y	D
4.33	Law and Jurisprudence	Z	E
4.40	Man/Environment Studies	Y	D
	Urban & Regional Planning, Environ. Studies	Y	E
4.43	Political Science	Z	E
4.46	Psychology	Y	B
4.46	Psychology	Y	C
4.47	Secretarial Studies	Z	E
4.49	Social Work and Social Welfare	Z	E
4.52	Sociology	Z	E
4.55	Military Studies	Z	E
4.57	Other Social Services	Z	E
4.99	Other, not elsewhere specified	Z	E
5.00	AGRICULTURAL AND BIOLOGICAL SCIENCES		
5.03	Agriculture (Animal, Plant, Soil Science)	W	A
5.06	Biochemistry	X	A
5.09	Biology	X	A
5.12	Biophysics	X	A
5.15	Botany	X	A
5.16	Fisheries and Wildlife Management	X	A
5.18	Household Science and Related	Y	D
5.21	Veterinary Medicine	W	A
5.22	Veterinary Sciences	W	A
5.23	Veterinary Medicine Specialties	W	A
5.24	Zoology	X	A
5.99	Other, not elsewhere specified	X	A

** Changes to category groupings in bold.

Code	Program/Discipline	Category 2 Group W - Z	Category 3 Group A - E
6.00	ENGINEERING AND APPLIED SCIENCES		
6.03	Architecture	X	E
6.05	Aeronautical and Aerospace Engineering	W	B
6.06	Chemical Engineering	W	A
6.07	Civil Engineering	W	B
6.08	Design, Systems Engineering	X	C
6.09	Electrical Engineering	X	C
6.10	Industrial Engineering	W	B
6.11	Mining Engineering	W	C
6.12	Mechanical Engineering	W	B
6.13	Metallurgical Engineering	W	B
6.14	Other Engineering	W	B
6.15	Engineering Science	X	B
6.16	Engineering General	W	B
6.20	Forestry	X	B
6.22	Landscape Architecture	X	E
6.99	Other, not elsewhere specified	W	B
7.00	HEALTH PROFESSIONS AND OCCUPATIONS		
7.03	Dentistry (Professional)	X	A
7.04	Dental Specialties	X	A
7.05	Medicine (Professional)	X	A
7.06	Basic Medical Sciences	X	A
7.08	Medical Specialties	X	A
7.10	Paraclinical Sci (Microbiology, Immunology, Pathology)*		A
7.12	Surgical Specialties	X	A
7.15	Nursing	Z	E
7.18	Optometry	X	A
7.21	Pharmacy	X	B
7.24	Epidemiology and Public Health	X	D
7.27	Rehabilitation Medicine	X	C
	Audio-Speech Therapy, Commun Disorders	X	B
	Occ., Rehab, Physical Therapy, App Health Sci.	X	D
7.36	Medical Technology	X	B
7.99	Other, not elsewhere specified	X	A
8.00	MATHEMATICS AND PHYSICAL SCIENCES		
8.06	Computer Science	Z	D
8.12	Mathematics	Z	E
8.15	Chemistry	X	A
8.18	Geology and Related	X	A
8.21	Metallurgy, Materials Science	W	B
8.24	Meteorology	X	A
8.27	Oceanography and Water Studies	X	A
8.30	Physics (e.g. Astronomy, Aerospace Sciences)	X	A
8.99	Other, not elsewhere specified	X	A

* Do not report corresponding inventory. See category 20.
** Changes to category groupings in bold.

Revised: 2002 10

1964-1969 *Ontario universities received capital monies through a project approval procedure.*

Oct. 2, 1967 Joint Capital Studies Committee began work to develop a capital formula to incorporate many of the features sought in the operating grants formula: objectivity and equity, consistent standards, the opportunity for the provincial government to exert a primary control over its total obligation, and an incentive for each institution to allocate and manage its resources.

Dec. 1967 A contract was awarded to Taylor, Lieberfeld and Heldman to do a physical inventory and utilization study of all Ontario universities.

1968-1969 Interim capital formula was derived. Committee on University Affairs stated that the province was entering an era when capital resources would become scarcer.

Aug. 1970 COU published a draft report with comments and guidelines on space standards that might be incorporated in a space formula.

July 1971 The Committee on Capital Financing, with the approval of COU, opted to take action in the development of a proposal for a capital formula. Four Task Forces were established:

Task Force - Space and Utilization: This Task Force was asked to prepare a space and utilization guide for the submission to the COU Committee on Capital Financing with a view to the guide being incorporated with appropriate cost data in a capital funds allocation system. Membership consisted of five universities: Brock, Carleton, Guelph, McMaster and Queen's.

1972 **Published: Building Blocks: Background Studies on the Development of a Capital Formula for Ontario. Volume 1: Report of the Task Force-Space and Utilization. 1972. (# 72-9)**

Published: Building Blocks: Volume II: Report of the Task Force-Space for Education. July 1972. (#72-11)

Task Force – Health Sciences (Capital)
Published: Building Blocks: Volume III: Report of the Task Force-Space for Health Sciences. Nov 1972. (#72-10)

Task Force - Building Costs: This Task Force was to study and comment on the past costs and quality of university construction and to provide appropriate cost multipliers.
Published: Building Blocks: Volume IV: Report of the Task Force-Building Costs. July 1972. (#72-12)

Published: Building Blocks: Supplement to Volume IV: Elemental Cost Analysis and Performance and Statistical Data - tables. 1972. (#72-12S)

Spring 1972 Summary Report, Ontario Universities Physical Resources Study (TLH) Report to the Joint Sub-Committee on Capital Studies of the Committee of Presidents of the Universities of Ontario and the Committee on University Affairs.

1972 Interim Capital Funding Formula was cancelled.

Nov. 1972 Committee of Capital Financing established a Standing Sub-Committee to continue the work begun by the task forces, particularly with respect to recommendations in ***Building Blocks, Volumes 1, 2 and 3***.

Nov. 1973 Phase II of the building cost study resulted in:
Published: Building Blocks: Volume V: Report of the Task Force-Building Life Costs. 1974 (#74-1)

April 1974 Stemming from recommendations in **Building Blocks, Volume 5**, COU agenda included a Proposal for the Establishment of a Reporting System for Annual Costs of Operating and Maintaining Ontario University Buildings.

Dec. 1978 Report of the Standing Sub-Committee to the Committee on Capital Financing concerning revisions to Building Blocks
Published: Building Blocks: Volume VI: Report of the Subcommittee-Revisions to Building Blocks (#78-12).
This report presents in a single volume the most recent recommendations previously contained in ***Volumes 1, 2 and 3*** of ***Building Blocks***. The first triennial survey is also reported.

Highlights:

- Ten input measures were reduced to five: FTE undergraduates, FTE graduates, FTE faculty, Lab contact hours, and Library volumes.
- All ***14 (fourteen)*** universities were included in the survey rather than just the original five.
- Separate sub-categories for *Instructional Office* were introduced.
- Variable space factors for *Laboratories* were adopted to reflect the needs of different disciplines.

July 1981 **Published: Inventory of Physical Facilities of Ontario Universities. 1980-81 (#81-7)**

July 1984 **Published: Inventory of Physical Facilities of Ontario Universities. 1983-84 (#84-5)**

Dec. 1984 Task Force to Review COU Space Standards was struck.

1986-1987 The COU space formula began to be used directly for the allocation of provincial funds. The Ontario Ministry of Training, Colleges and Universities (MTCU) now uses space entitlement as generated by the formula to determine the allocation of repair and renovation funds under the Facilities Renewal Program.

Nov. 1987 The COU Standing Committee on Space Standards and Reporting was established. Future consideration was to be given to the question of eligibility of federated and affiliated institutions for capital funding.

Jan. 1988 **Published: Building Blocks: Volume VII: The Final Report of the Task Force to Review COU Space Standards. 1986-87 triennial survey published (#88-1).**
Highlights:

- Space factors were converted to metric units.
- Five input measures were increased to eight: added FTE non-faculty research appointments; FTE non-academic office staff; and total assignable space.
- Instructional labs: some changes were made to the discipline groups.
- Research: non-faculty researchers weighted at 50%; discipline group changes.
- Office: non-academic office staff included as a new input measure.
- Plant Maintenance appears as a separate category.
- Changes to formula for Library and Athletics.

1988 The Committee on Space Standards and Reporting was created. It replaced the Task Force on COU Space Standards.

Feb. 1990 A Background Paper Prepared for the Joint Working Group:
University Space Standards in North America.

Feb. 1990 Report of the Joint Working Group on University Space Utilization:
Classroom Space Utilization in Ontario Universities, 1988-89.

The review of classroom space and its utilization was carried out to satisfy a concern expressed by the "Ontario Ministry" that classrooms were underutilized and that the COU space guidelines were too generous. Data from a sample of Ontario universities showed that the universities were meeting or exceeding the hours of use per week and percentage of seats occupied in the classroom space factor, and the average area for the different furniture types currently in use was also consistent with the assumption in the formula. The survey also showed that extensive use during the evening was occurring in many institutions.

Jan. 1991 **Published: Inventory of Physical Facilities of Ontario Universities, 1989-90 (#91-1)**

March 1991 Federated and affiliated colleges to be included in the triennial survey.

1992	**Published: COU Building Blocks-Users Guide (first edition)**
Dec. 1993	**Published: Inventory of Physical Facilities of Ontario Universities, 1992-93 (#93-5)**
July 1997	**Published: Inventory of Physical Facilities of Ontario Universities, 1995-96 (#330)**
April 2000	**Published: Inventory of Physical Facilities of Ontario Universities, 1998-99 (#670)**

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
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